CD Stereo System

Operating Instructions

Model No. **SC-AK28**
SC-AK18

The illustrations show SC-AK28.

COMPACT
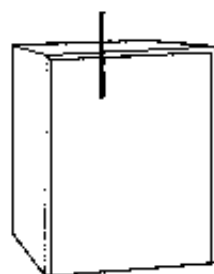**disc**
DIGITAL AUDIO

EB GN

Panasonic®

Dear customer

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.

These operating instructions are applicable to the following system.
These operating instructions, however, fundamentally explain the operation of system SC-AK28.

System	SC-AK28	SC-AK18
Main unit	SA-AK28	SA-AK18
Speakers	SB-AK28A (For Australia and New Zealand: SB-AK28)	SB-AK18A (For Australia and New Zealand: SB-AK18)

CLASS 1 LASER PRODUCT

(Back of product)

DANGER	VISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.	(Inside of product)
ADVARSEL	SYNLIG LASERSTRÅLING VED ÅBNING, UNDGÅ UDSÆTTELSE FOR STRÅLING.	(Indersiden af apparatet)
VARO!	AVATTAESSA ALTISTUT NÄKYVÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.	(Tuotteen sisällä)
VARNING	SYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.	(Apparatens insida)
ADVARSEL	SYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.	(Produktets innside)
VORSICHT	UN- SICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN.	(Im Inneren des Gerätes)

CAUTION!

THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF.
REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTION!

DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING.

Supplied accessories

Please check and identify the supplied accessories.

☐ AC mains lead .... 1 pc.

For United Kingdom (RJA0044-1C)

For Australia and New Zealand (RJA0035-X)

☐ Remote control transmitter .... 1pc.

SC-AK28: (RAK-SC957WK)
SC-AK18: (EUR648200)

☐ Batteries for remote control .... 2pcs.
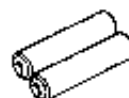
☐ FM indoor antenna................................... 1 pc.

For United Kingdom (RSA0007)

For Australia and New Zealand (RSA0006-J)

☐ AM loop antenna (RSA0029) .... 1 pc.

☐ Antenna plug adaptor (SJP9009) .... 1pc.
(United Kingdom only)

Use numbers indicated in parentheses when asking for replacement parts.

Table of contents

Safety precautions

Placement

Set the system up on an even surface away from direct sunlight, high temperatures, high humidity, and excessive vibration. These conditions can damage the cabinet and other components, thereby shortening the unit's service life.

Place it at least 15 cm away from wall surfaces to avoid distortion and unwanted acoustical effects.

Do not place heavy items on the unit.

Voltage

Do not use high voltage power sources. This can overload the unit and cause a fire.

Do not use a DC power source. Check the source carefully when setting the unit up on a ship or other place where DC is used.

AC mains lead protection

Ensure the AC mains lead is connected correctly and not damaged. Poor connection and lead damage can cause fire or electric shock. Do not pull, bend, or place heavy items on the lead.

Grasp the plug firmly when unplugging the lead. Pulling the AC mains lead can cause electric shock.

Do not handle the plug with wet hands. This can cause electric shock.

Foreign matter

Do not let metal objects fall inside the unit. This can cause electric shock or malfunction.

Do not let liquids get into the unit. This can cause electric shock or malfunction. If this occurs, immediately disconnect the unit from the power supply and contact your dealer.

Do not spray insecticides onto or into the unit. They contain flammable gases which can ignite if sprayed into the unit.

Service

Do not attempt to repair this unit by yourself. If sound is interrupted, indicators fail to light, smoke appears, or any other problem that is not covered in these instructions occurs, disconnect the AC mains lead and contact your dealer or an authorized service center. Electric shock or damage to the unit can occur if the unit is repaired, disassembled or reconstructed by unqualified persons.

Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.

(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark ⊛ or the BSI mark ♡ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as stated below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral, Brown: Live.
As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL ⏚ OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A
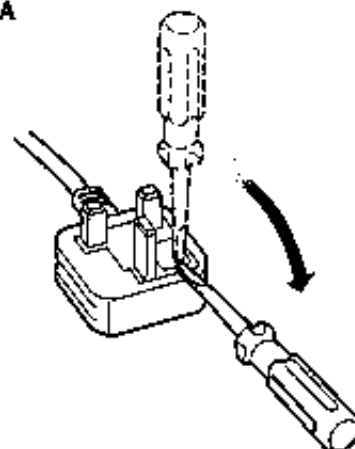
Figure B
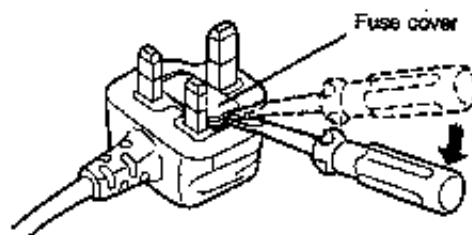
Fuse cover

2. Replace the fuse and close or attach the fuse cover.

Figure A

Fuse
(5 ampere)

Figure B

Fuse
(5 ampere)

A

SC-AK28

R6, AA, UM-3

SC-AK18

R6, AA, UM-3

B

Remote control signal sensor

Transmission window

About 7 meters in front of the signal sensor

30° 30°

C

SC-AK28

Superwoofer

SC-AK18

Battery installation

Use of batteries

* Align the poles (+ and −) properly when inserting the batteries.
* Do not mix old and new batteries or different types of batteries.
* Do not recharge ordinary dry cell batteries.
* Do not heat or disassemble the batteries. Do not allow them to contact flame or water.
* Remove the batteries if the unit is not to be used for a long time.
* Do not keep together with metallic objects such as necklaces.
* Do not use rechargeable type batteries.

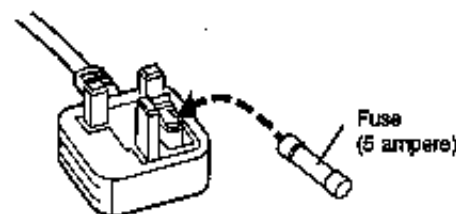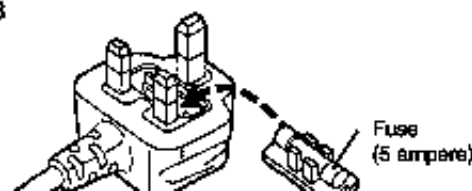Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire.
If electrolyte leaks from the batteries, consult your dealer.
Wash thoroughly with water if electrolyte comes in contact with any part of your body.

Correct method of use

Operation notes

* Do not place obstacles between the remote control signal sensor and remote control unit.
* Do not expose the remote control signal sensor to direct sunlight or to the bright light of a fluorescent light.
* Take care to keep the remote control signal sensor and end of the remote control unit free from dust.
* If this system is installed in a rack with glass doors, the glass doors' thickness or colour might make it necessary to use the remote control a shorter distance from the system.

To prevent damage

* Never place heavy items on top of the unit.
* Do not disassemble or reconstruct the unit.
* Do not spill water or other liquids into the unit.

SC-AK28
Place the speakers so that the super woofer is on the outside.

SC-AK18
Speakers are designed identically so that no left or right channel orientation is necessary.
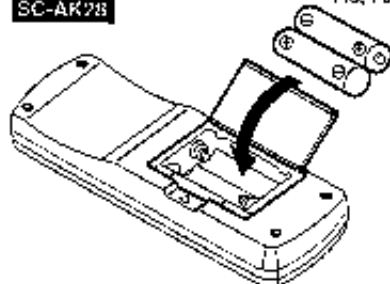
Notes
* Keep your speakers at least 10 mm away from the system for proper ventilation.
* These speakers do not have magnetic shielding. Do not place them near televisions, personal computers or other devices easily influenced by magnetism.
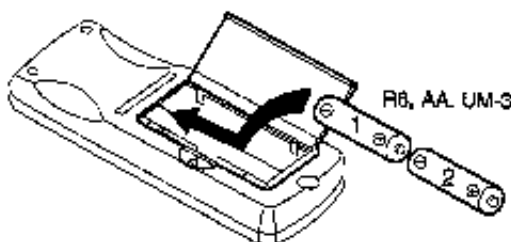* To avoid damage to the speakers, do not touch the speaker cones if you have taken the nets off.

Before using
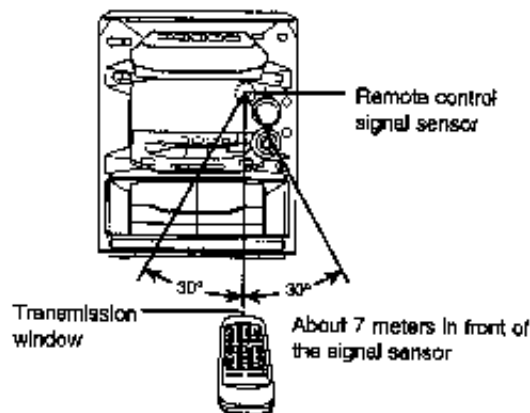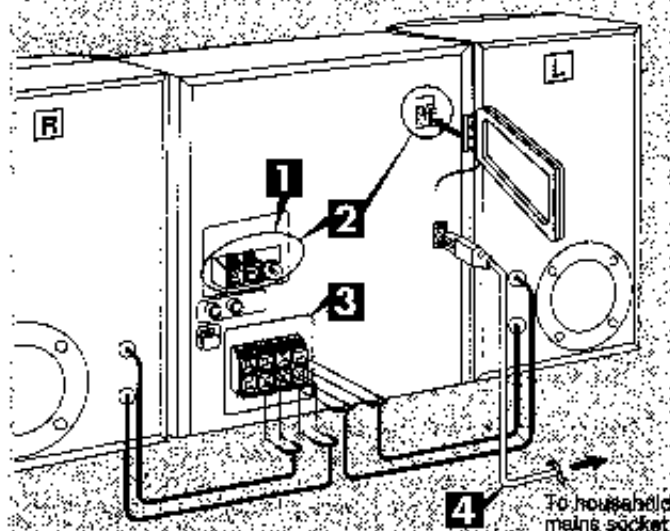
To household
mains socket

1

For Australia and New Zealand   For United Kingdom
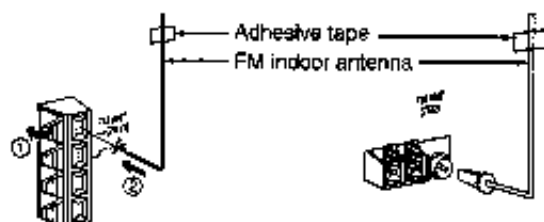
Adhesive tape
FM indoor antenna

2

For Australia and New Zealand   For United Kingdom

AM loop antenna

3

SC-AK28

Red (+)
Grey (+)
Black (−)
Blue (−)

SC-AK18

Red (+)
Black (−)

4
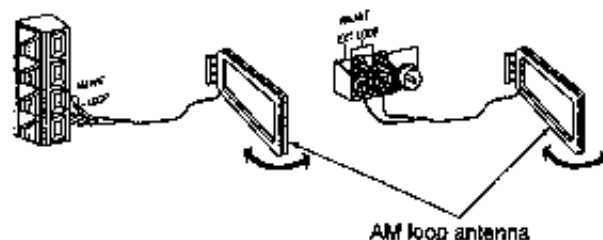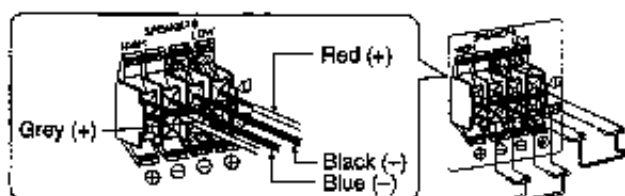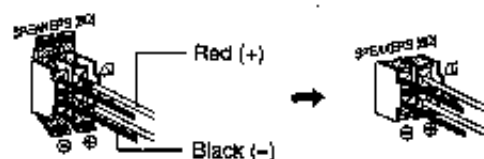
Connector
Appliance inlet
Approx. 6 mm

Connections

Basic connections (for supplied accessories)

- Plug the AC mains lead into a household mains socket only after all other connections have been made.
- To prepare the antenna wires and speaker cords, twist the vinyl cover tip and pull off.
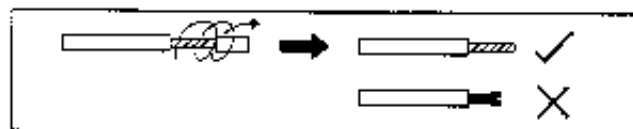
For Australia and New Zealand

The configuration of the FM and AM antenna terminals are different.

1 Connect the FM indoor antenna.
Tape the antenna to a wall or column, in a position where radio signals are received with the least amount of interference.

Note
For best reception sound quality:
An FM outdoor antenna is recommended. (See page 7.)

2 Connect the AM loop antenna.
After attaching the antenna, turn on the system and tune in a broadcast station. Then, turn the antenna to the angle of best reception and least interference.

3 Connect the speaker cables.
Connect each end of the speaker cables to the terminal lever of the same colour.

Caution
- Use only the supplied speakers.
  The combination of the main unit and speakers provide the best sound. Using other speakers can damage the unit and sound quality will be negatively affected.
- To prevent damage to circuitry, never short-circuit positive (+) and negative (−) speaker wires.

> **Caution**
> * Use the speakers only with the recommended system.
>   Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire.
>   Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.
> * Do not attach these speakers to walls or ceilings.

4 Connect the AC mains lead.

> **(FOR UNITED KINGDOM ONLY)**
> **BE SURE TO READ THE CAUTION FOR THE AC MAINS LEAD ON PAGE 4 BEFORE CONNECTION.**

Insertion of connector
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.
However there is no problem using the unit.

Note
The included AC mains lead is for use with this unit only. Do not use it with other equipment.

A

For Australia and New Zealand

— FM outdoor antenna (not included)

— 75 Ω coaxial cable (not included)

① [diagram] 30 mm

② Shield braid

③ 15 mm Core wire

For United Kingdom

— FM outdoor antenna (not included)

— 75 Ω coaxial cable (not included)

Antenna plug adaptor (included)

B

For Australia and New Zealand

— AM outdoor antenna (not included)

5-12 m

— AM loop antenna (included)

For United Kingdom

— AM outdoor antenna (not included)

5-12 m

— AM loop antenna (included)

C

Rear panel of this unit

(R) (L)

Analog player (not included)

D

Rear panel of this unit

Optical fiber cable (not included)

Receiver (not included)

OPTICAL IN

Optional antenna connections

You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc.

FM outdoor antenna A

Disconnect the FM indoor antenna if an FM outdoor antenna is installed.
① Remove a piece of the outer vinyl insulator.
② Twist the shield braid.
③ Expose the core wire.

Note

An outdoor antenna should be installed by a qualified technician only.

AM outdoor antenna B

Connect the outdoor antenna without removing the AM loop antenna. Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.

Note

When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.

External unit connection

- Make sure that the power supply for all components has been turned off before making any connections.
- For details, refer to the operating instructions of the unit which are to be connected.
- All peripheral components and cables sold separately.

Connecting analog equipment C

An analog player with a built-in phono equalizer can be connected. When units other than those described are to be connected, please consult your audio dealer.

Connecting digital equipment to the optical fiber out terminal D (For United Kingdom: model SC-AK28 only)

Remove the dust-protection cap and connect an optical fiber cable (not included) to the optical input terminal of the receiver or minidisc recorder.

Note

When this terminal is not being used, attach the cap.

A

B
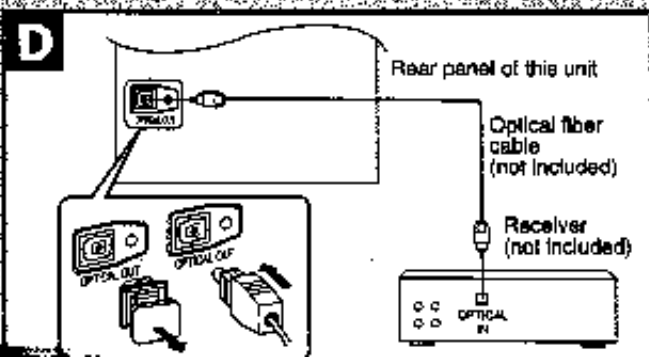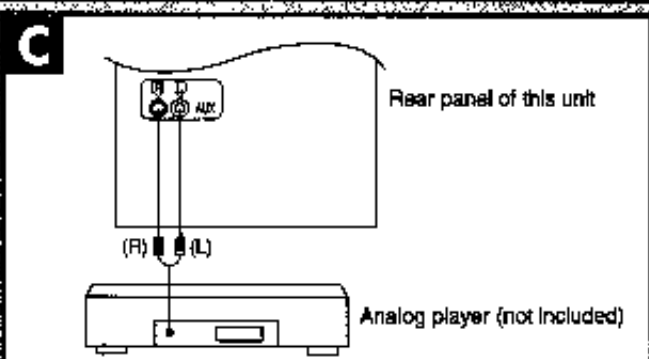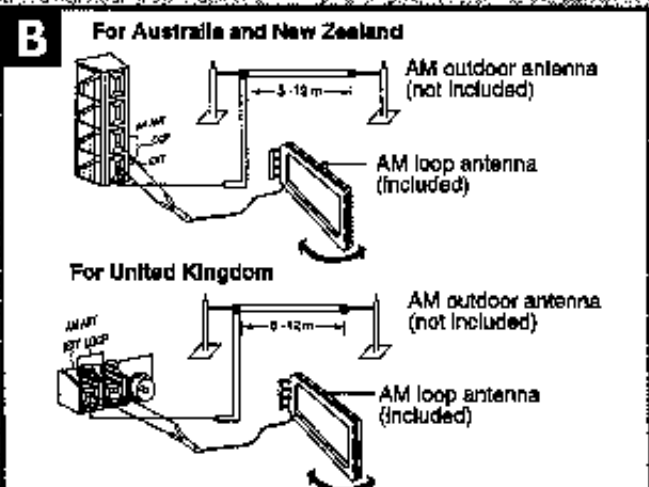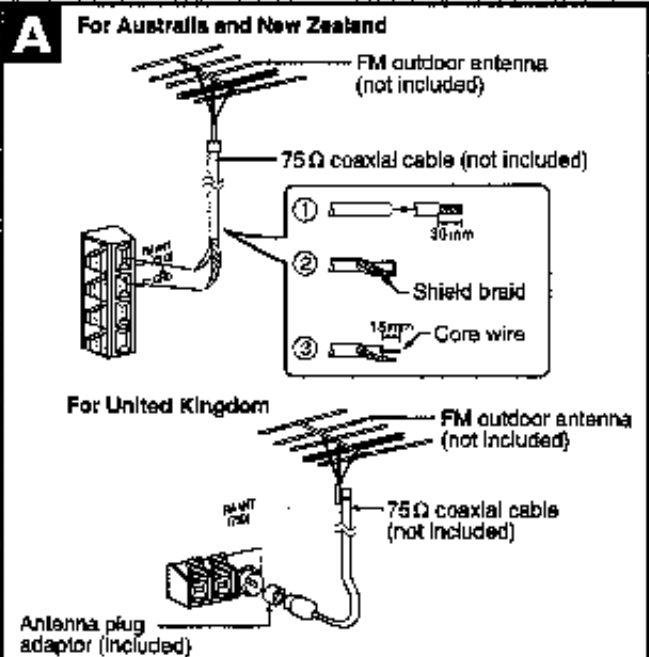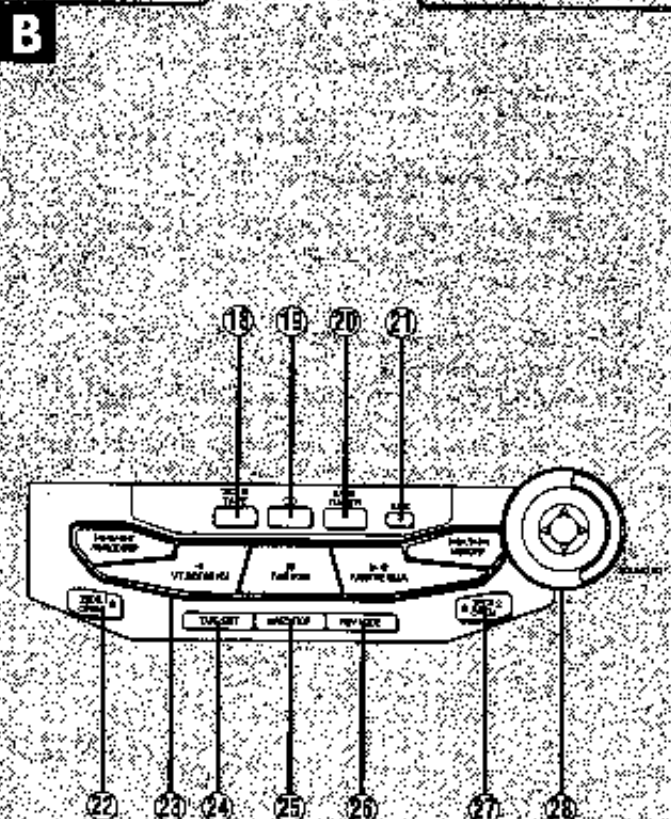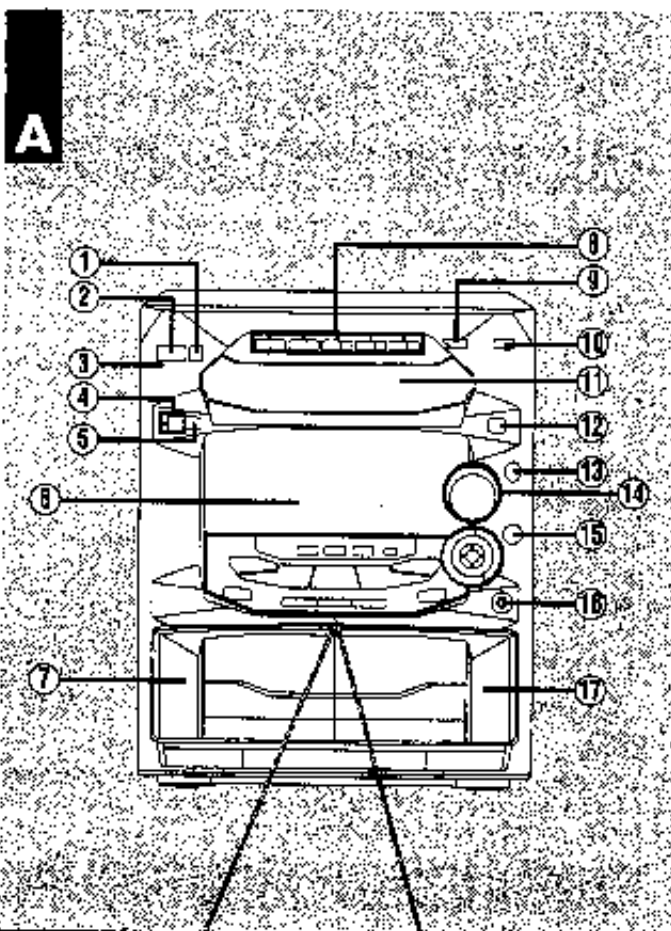
Main unit Ⓐ		
No.	**Name**	**Ref. page**

① Eco button (MODE) 10

② **For Australia and New Zealand**
Standby/on switch (⏻/Ⅰ, POWER) 10

For United Kingdom
Standby/on switch (⏻/Ⅰ) 10
Press to switch the unit from on to standby mode or vice versa.
In standby mode, the unit is still consuming a small amount of
power.

③ **AC supply indicator (AC IN)**
This indicator lights when the unit is connected to the AC mains
supply.

④ Play timer/record timer button and indicator
(⏱PLAY/⏱REC) 27

⑤ Clock/timer button
(CLOCK/TIMER) 11, 27, 28

⑥ **Display**

⑦ Deck 1 cassette holder 19

⑧ Disc direct play, open/close buttons and indicators
(CD 1 – CD 5, ⏏) 15

⑨ CD manager button
(CD MANAGER) 16, 24

⑩ Random play button (RANDOM) 16

⑪ Disc tray

⑫ Display select/demonstration button
(-DISP/-DEMO) 10, 11

⑬ **SC-AK28**
Super woofer on/off button
(S.WOOFER) 25

SC-AK18
V.BASS on/off button (V.BASS) 25

⑭ Volume control (VOLUME) 13

⑮ 3D AI EQ button (3D AI EQ) 25

⑯ Headphone jack (PHONES) 29

⑰ Deck 2 cassette holder 19

Center console Ⓑ		

⑱ Tape/deck select button (TAPE, DECK 1/2) 19

⑲ CD button (CD) 18

⑳ Tuner/band select button (TUNER, BAND) 12

㉑ AUX button (AUX) 29

㉒ Deck 1 open button (⏏ DECK 1 OPEN) 19

㉓ **Basic operating buttons**
Functions change according to the source.

㉔ Tape edit button (TAPE EDIT) 21

㉕ Recording start/stop button (● REC/STOP) 22

㉖ Reverse mode select button (REV MODE).............. 19

㉗ Deck 2 open button (⏏ DECK 2 OPEN) 19

㉘ Sound equalizer control (SOUND EQ) 25

Remote control

Buttons such as ❷ functions in exactly the same way as the buttons on the main unit.

Before using

A

NO DEMO ➡ DEMO

B

For Australia and
New Zealand

POWER

For United Kingdom

⏻

MODE

For Australia and New Zealand

POWER ➡ MODE

For United Kingdom

⏻ ➡ MODE

NORMAL ⇄ ECO

C

AUTO OFF
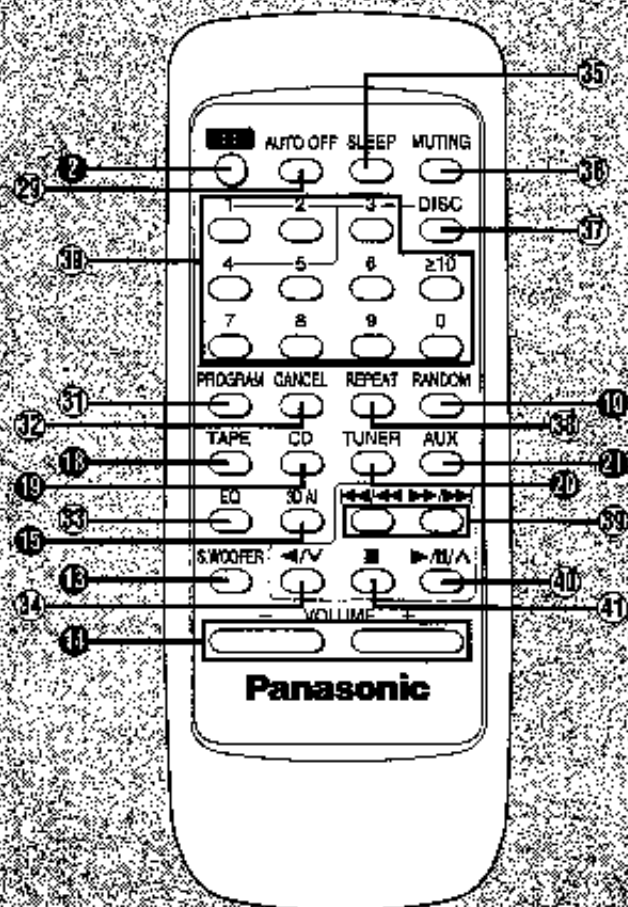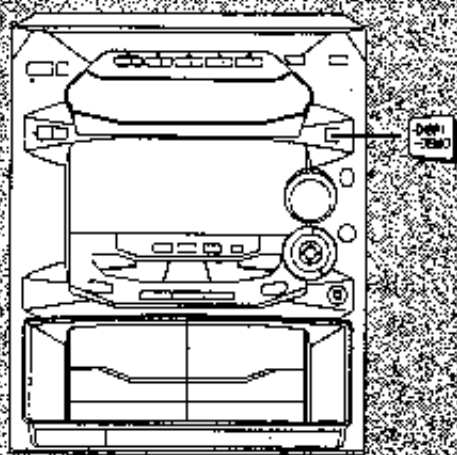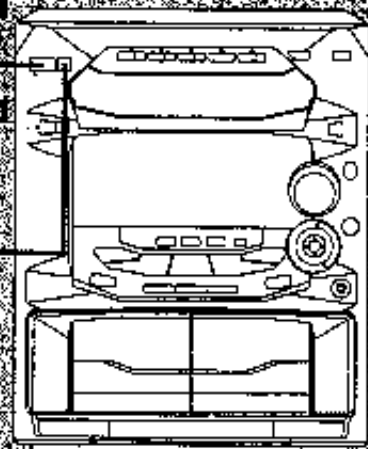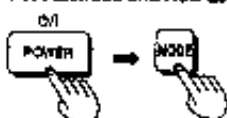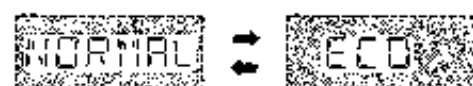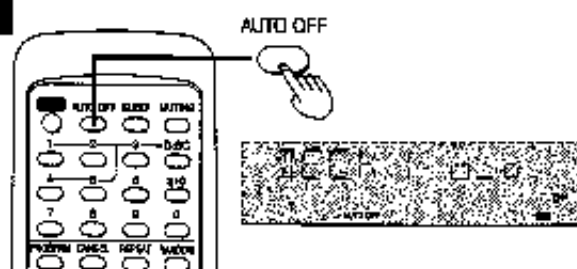
Turning the demo function off B

If the clock has not been set, a demonstration of the display is shown when the unit is switched to standby.
This function is set to on at the time of purchase.
Turn this function off to get the most from the eco mode (see below).

Press and hold [-DISP/-DEMO] until "NO DEMO" is displayed.
The display changes each time the button is held down.
NO DEMO (off) ↔ DEMO (on)

ECO mode B

When this mode is used, the display remains blank when the unit is switched to standby mode and the power consumed is reduced to 0.4 W from a maximum of 12 W.
The mode is set to on at the time of purchase.

ECO mode \\ Condition in standby	Display	Power consumption
off	clock	12 W
on	blank	0.4 W

Note

To get the most from this mode, turn the demo function off or set the clock.

Turning ECO on and off
Press [⏻] to turn the unit on.
Press [MODE].
The current ECO mode is displayed. Press again to change the mode.
The display changes each time the button is pressed.
NORMAL (off) ↔ ECO (on)

The eco mode can be turned on if the unit is in standby but it cannot be turned off.

Auto-off function B

by remote control only

When CD or tape is selected as the source
To save power, the unit turns off if it is left unused for four minutes.

Note

This function does not work if the source is tuner or AUX.

Press [AUTO OFF].
"AUTO OFF" is shown on the display.

To cancel:
Press [AUTO OFF] again to clear "AUTO OFF" from the display.

For your reference
The setting is maintained even if the unit is turned off. When the unit is turned on again, "AUTO OFF" is displayed and the unit functions as described above.
"AUTO OFF" disappears from the display if either tuner or AUX is selected as the source but continues to function normally.
"AUTO OFF" remains displayed if CD or tape is selected as the source.

For Australia and New Zealand | For United Kingdom

1
POWER
ON

2
CLOCK/TIMER
CLOCK ➜ ODDD

3
V TUNE/TIME ADJ | ∧ TUNE/TIME ADJ
1625

4
CLOCK/TIMER
1625

A
-DISP/-DEMO

B
AUTO OFF SLEEP MUTING
MUTING
MUTING

This is a 24-hour display clock.
This example in the figure shows how to set the time for 16:25
(4:25 p.m.).

1 Press [Φ/I] to switch on the system.

2 Press [CLOCK/TIMER] to select "CLOCK".
Every time you press the button:

CLOCK ➜ ΦPLAY ➜ ΦREC
└── Previous display ──┘

3 (within 7 seconds or so)
Press [TUNE/TIME ADJ (V or ∧)] to show the present
time.

4 Press [CLOCK/TIMER] to finish setting the time.
The display will return to whatever was displayed before you
set the time.
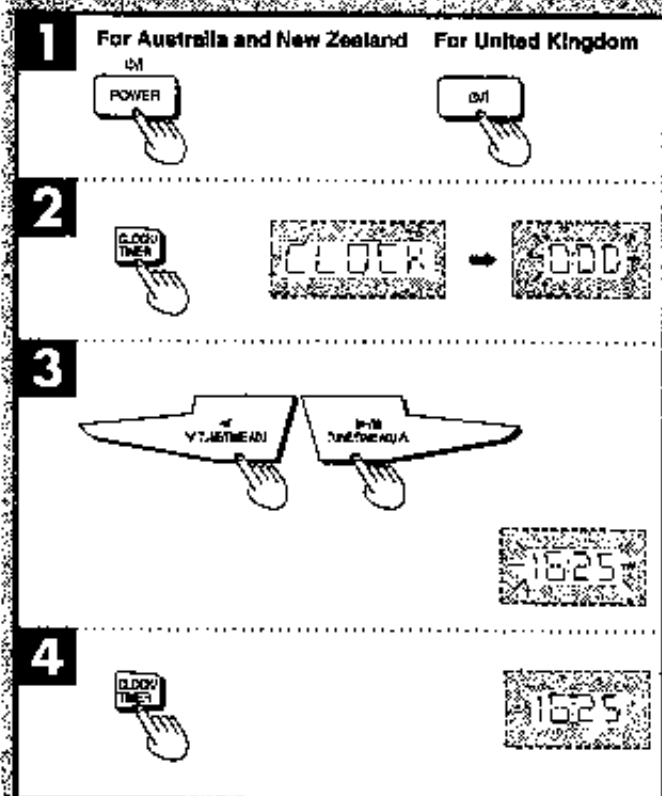
To display the time when system is ON
Press [CLOCK/TIMER] to select "CLOCK".

At ECO mode on, to display the time when system is OFF
Press [-DISP/-DEMO]. **A**

The time will be displayed for about 5 seconds and then the display
will return to whatever was previously displayed.

Switching displays A

**Press [-DISP/-DEMO] to select the desired spectrum
analyzer.**
Every time you press the button:

Normal ➜ Peak hold ➜ Aurora ➜ Wiper
└──────── (OFF) ◀────────┘

To mute the volume B

by remote control only

This feature is convenient when you have a telephone call, etc.

Press [MUTING].
Press the button again to cancel.
"MUTING" goes out.
Muting can also be cancelled by lowering the volume all the
way (--dB).

When the system is turned off, the muting operation will be automatically
cancelled.

1

BAND
TUNER

`FM 8750`

2

TUNE MODE

`MANUAL`

3

◄
V TUNE/TIME ADJ

►►
TUNE/TIME ADJ ∧

`FM 88.10`

4

►►►/►►►|
MEMORY

`FM 88.10`

↓

Preset channel

`FM 8390`

⋮
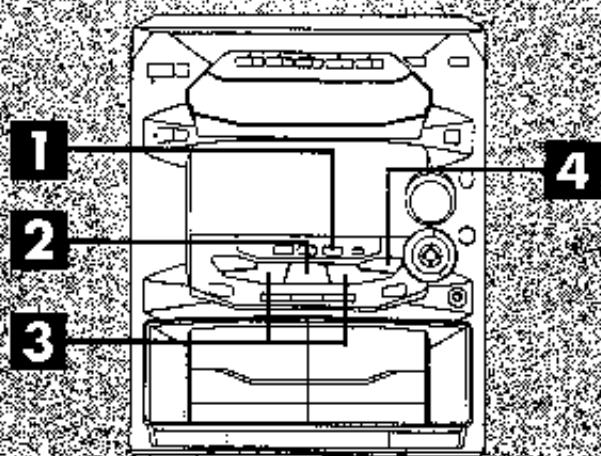
- Up to 12 stations can be set in each band with the automatic or manual memory presetting.
- If broadcast frequencies are preset in the memory, you can easily tune in any of these frequencies from the system or remote control unit.
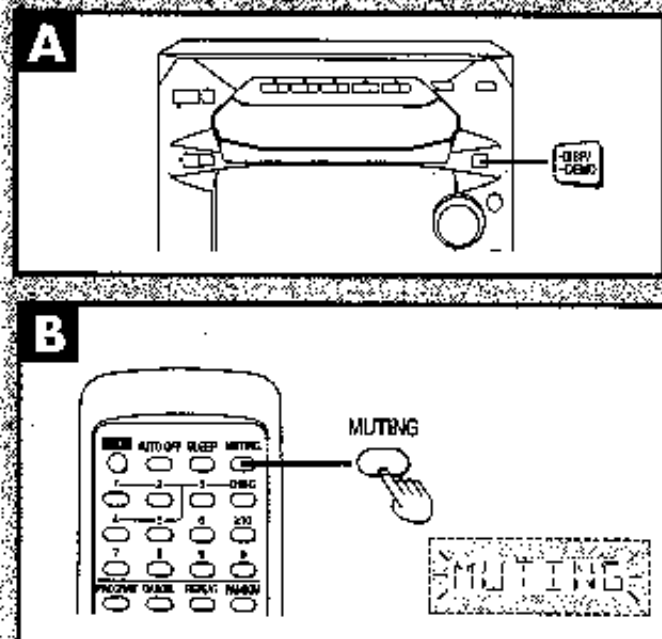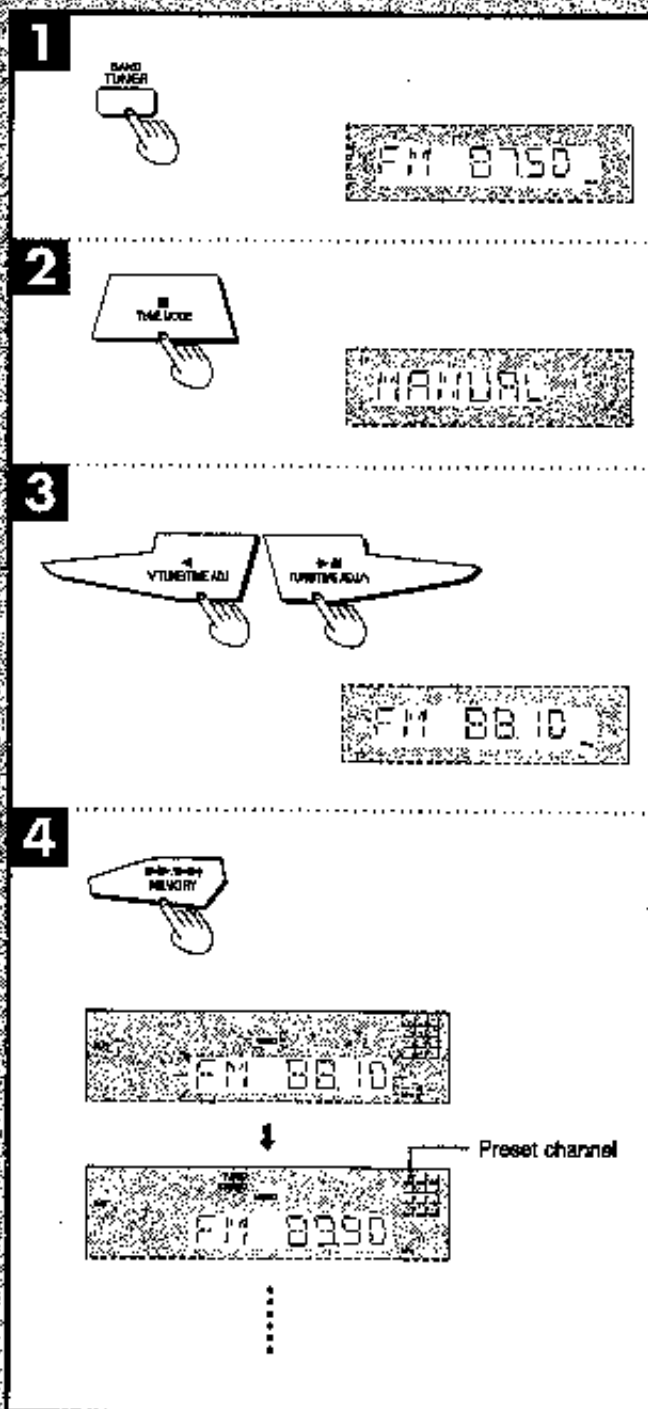- You can preset just those stations you like. (See "Presetting only your favourite stations" below.)

1 Press [TUNER, BAND] to select band.
The system will come on automatically.
Every time you press the button: FM ↔ AM

2 Press [■, TUNE MODE] to select "MANUAL".
Every time you press the button: MANUAL ↔ PRESET.

3 Press [TUNE/TIME ADJ (∨) or (∧)] until the display shows the frequency from which you want to begin automatic memory presetting.

Tips on tuning in radio stations
① Hold down either arrow button until the frequency numbers start scrolling.
② When near to the frequency you are looking for, press the button repeatedly until the station is tuned in.

4 Press and hold [►►►/►►►|, MEMORY] until the frequency begins to change.
This will start presetting automatically. When finished, the radio will tune in the last station memorized.

If auto presetting is not possible because radio signals are weak or for some other reasons, do the following.

Presetting only your favourite stations

Preset the stations one at a time.
1. Perform step 3 above. Then, press [►►►/►►►|, MEMORY] ("MEMO" flashes) and select a station with [TUNE/TIME ADJ (∨) or (∧)].
2. While "MEMO" is flashing, press [►►►/►►►|, MEMORY] again and select a preset channel with [TUNE/TIME ADJ (∨) or (∧)].
3. Press [►►►/►►►|, MEMORY] to preset the station.

Memory retention
Your preset is retained in memory for about 2 weeks while the system is unplugged.

Listening to radio broadcasts

1 **Press [TUNER, BAND] to select band.**
The unit will come on automatically.
Every time you press the button: FM ↔ AM

2 **Press [■, TUNE MODE] to select "PRESET" or "MANUAL".**
Every time you press the button: MANUAL ↔ PRESET.

PRESET: For preset stations
MANUAL: For non-preset stations

3 **Press [TUNE/TIME ADJ (V) or (∧)] to select the desired broadcast.**
"STEREO" lights when an FM stereo broadcast is being received.
"TUNED" lights when you precisely tune in a broadcast station.

4 **Adjust the volume level.**

Auto tuning

Auto tuning is an easy way to tune in non-preset stations in the manual mode.

Hold down either [TUNE/TIME ADJ (V) or (∧)], and release the button when the frequency starts scrolling.
The frequency will stop scrolling automatically on the first station it picks up.

* When there is outside interference, the radio sometimes stops on a certain frequency where no station is broadcasting.

To stop auto tuning
Press either [TUNE/TIME ADJ (V) or (∧)] again.

If noise is excessive in the FM stereo mode A

Press [|◄◄◄/◄◄◄, FM MODE/BP], ("MONO" will light up.)
Sound will be produced in monaural, but this also reduces noise.
Press the button again to cancel. "MONO" will go out.

Normally, you'll want to listen in stereo, so leave "MONO" off. This way, you can listen to stereo broadcasts in stereo, and monaural broadcasts in mono.

You can preset an FM station in monaural by following the steps under "Presetting only your favourite stations" on page 12. After selecting the station in step 1, select "MONO" with [|◄◄◄/◄◄◄, FM MODE/BP], then continue with steps 2 and 3.

Notes

* If you preset stations in memory they can be easily selected from the remote control with [◄◄/V], [►/II/∧] or the numeric buttons.
  1. Press [TUNER] to select the band.
  2. Press [◄◄/V] or [►/II/∧] to select the channel, or select the required channel directly with the numeric buttons.
     To select a two-digit channel:
     Press [≥10] and then the two numbers you want within 10 seconds or so.
* Sound is momentarily interrupted if you load/unload tapes while listening to an AM broadcast.
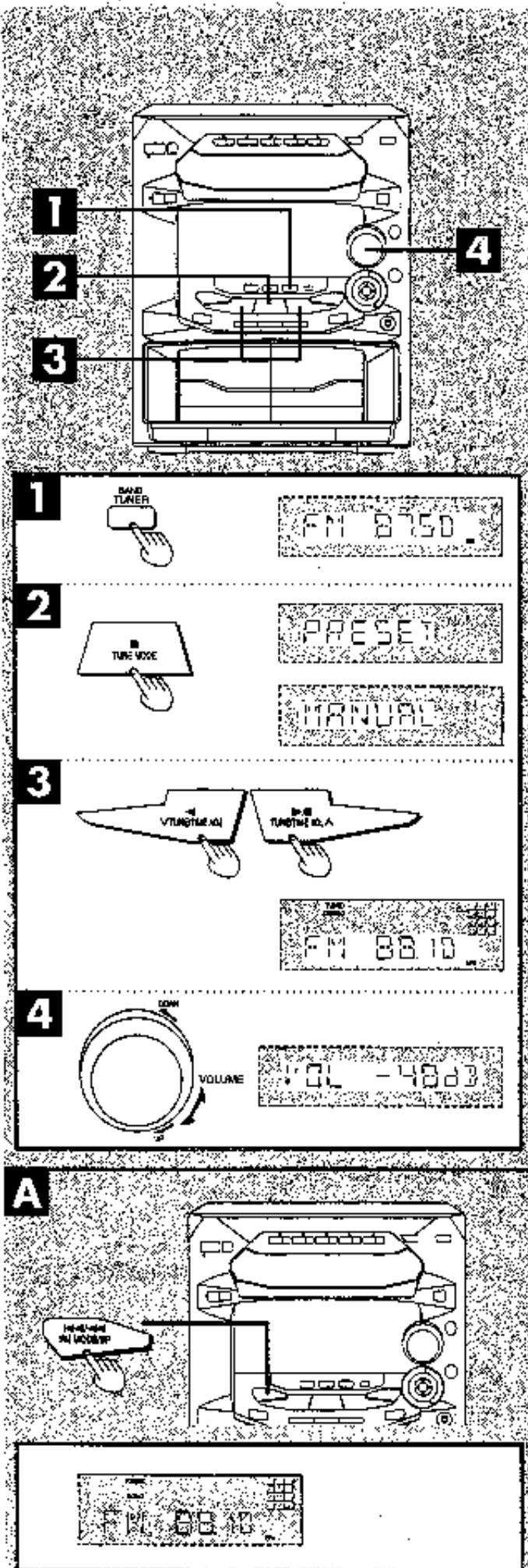
A

B

How to hold CDs

Do not touch the recorded surface.

C

How to clean CDs

Wipe from inside outward.

D

E

F

8 cm CD

12 cm CD

Concerning compact discs

With this system, you can only play compact discs having this mark.
However, do not use irregular shaped CDs. CDs of the sort can damage the unit. **A**

COMPACT disc DIGITAL AUDIO

Handling precautions **B** - **D**

* If you are taking the disc from a cold to a warm environment, moisture may form on the disc. Wipe this off with a soft, dry, lint-free cloth before using the disc.
* Do not write on the label side with a ball-point pen or other writing instrument.
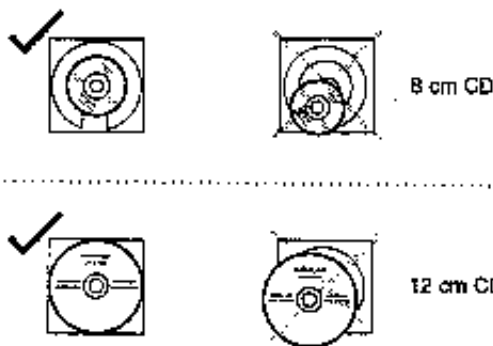* Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
* Do not attach labels or stickers to CDs. (Do not use CDs with exposed adhesive from tape or left over peeled off stickers.)
* Do not use scratch-proof protectors or covers other than those specified for use with this system.
* Do not use CDs printed with label printers available on the market.

Storage precautions

Be sure to store discs in their cases to protect them from dust, scratches, and warping.

Do not place or store discs in the following places
* Locations exposed to direct sunlight
* Humid or dusty locations
* Locations directly exposed to a heat vent or heating appliance
* In the glove compartment or on the rear deck of an automobile

To prevent damage

Always observe the following points.
* Load only 1 CD on the tray. **E**
* Load CDs as shown in figure **F**
  The adapter is not needed with 8 cm CDs (singles).
* Set the system on a flat, level surface.
  Do not set it on top of magazines, inclined surfaces, etc.
* Do not move the system while tray is opening/closing, or when loaded.
  Always unload all CDs before moving the system.
* Do not put anything except CD in tray.
* Do not use cleaning CDs or CDs which are badly warped or cracked.
* Do not disconnect the AC mains lead from the household mains socket during disc changing operation.

1

2

3

4

1

CD 1 ▲ ~ CD 8 ▲

OPEN

2

Label must face upward.

3

CD 1 ▲ ~ CD 5 ▲

CHANGE

Track number

Elapsed playing time
(Of current track number)

4

VOLUME

VOL --48dB

A

TUNE MODE

Number of tracks

Disc number   Total playing time

B

Always stop the changer before loading or changing CDs. You cannot change CDs while a disc is playing.

1 Press a [▲] button.
The unit will come on automatically and the tray opens.

2 Set CD in the tray.
To continue loading CDs in the other trays
Press another [▲] button to open the required tray.
The current tray closes and the selected tray automatically opens.
Press the same [▲] to close the tray.

3 Press [(CD 1) ~ (CD 5)] to play your desired disc.
(If the desired CD is indicated on the display panel, the same operation can be accomplished by pressing [▶/Ⅱ].)
Play will start from the first track on the disc and will continue until the last track of the final disc is played (see below).

4 Adjust the volume level.

To stop the disc play A
Press [■].

When " ▶ " appears on the display B
It indicates there are 13 or more tracks on the disc in the playing position.

Disc indicators
The disc indicators light whenever the tray is in the playing position whether it is loaded or not.

What is meant by "final disc"?
For example, if play starts from disc 4, disc 3 will be the "final disc".
Order of progression:
Disc 4→5→1→2→3

One touch play
If the unit is in standby mode and a CD is loaded, press [CD] or [(CD 1) ~ (CD 5)].
The unit will come on automatically and play will start.

To pause	Press [▶/Ⅱ] during playback. To resume playback, press [▶/Ⅱ].
To search forward/ backward (Search)	Hold down [I◀◀/◀◀] (backward) or [▶▶/▶▶I] (forward) during playback or pause mode.
To skip forward/ backward	Press [I◀◀/◀◀] (backward) or [▶▶/▶▶I] (forward) during playback or pause mode.

Notes

- During random play (page 16), you cannot skip to tracks which have already been played.
- During program play (page 17) or random play, you can search forward or backward only within the current track.
- During program play, skipping is always in the programmed order, whether forward or backward.
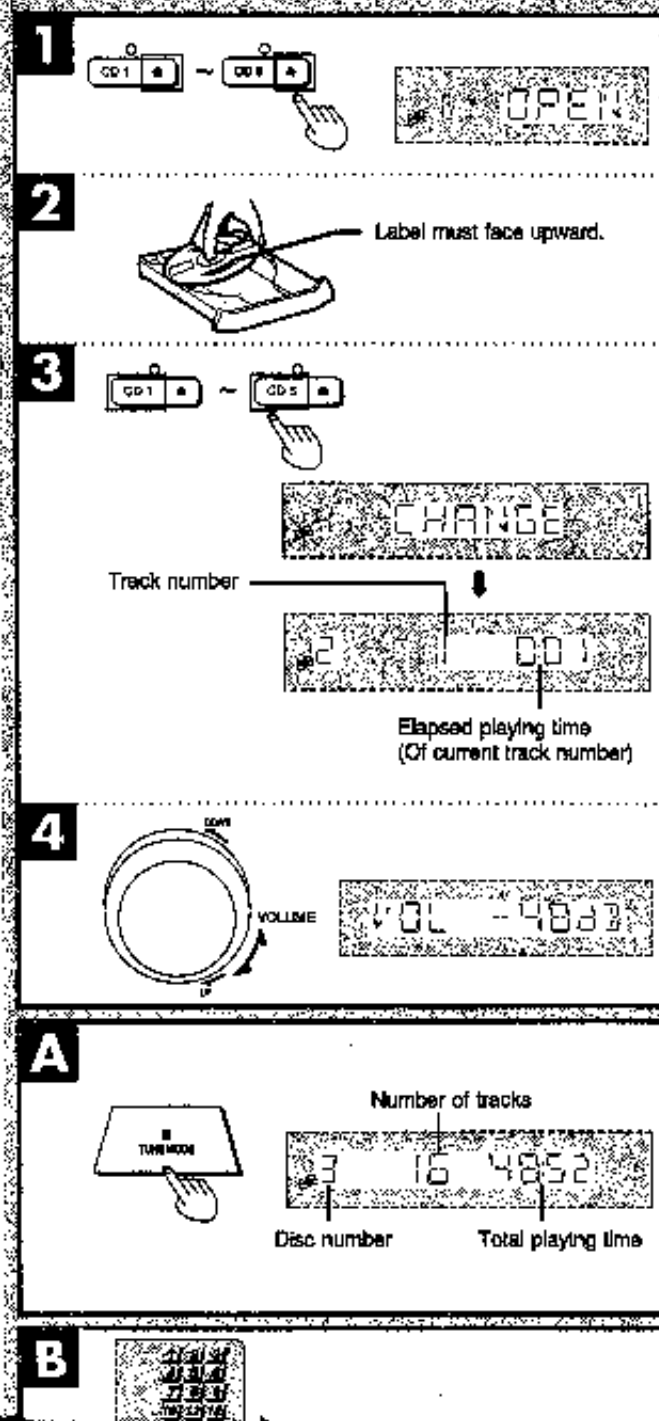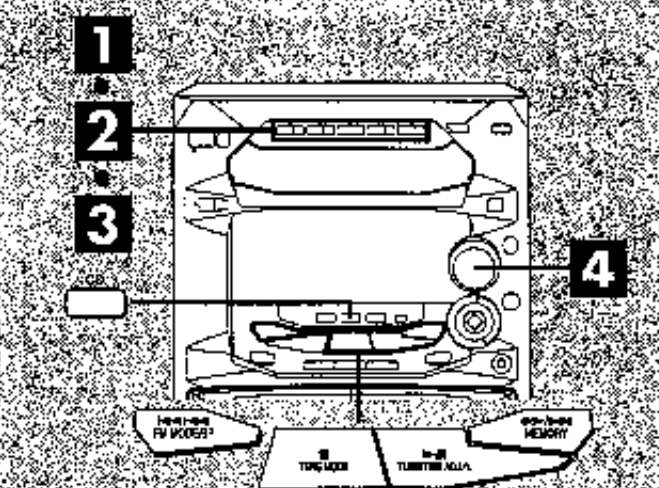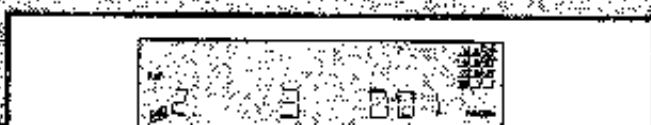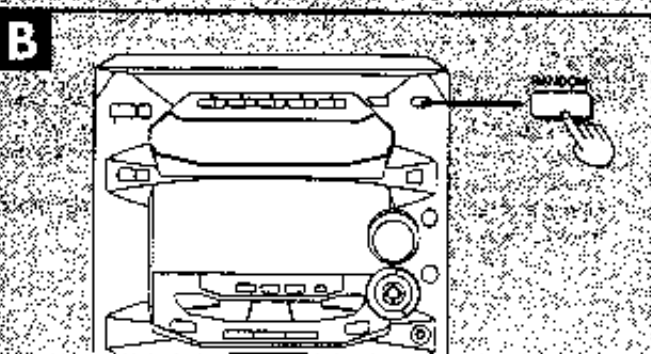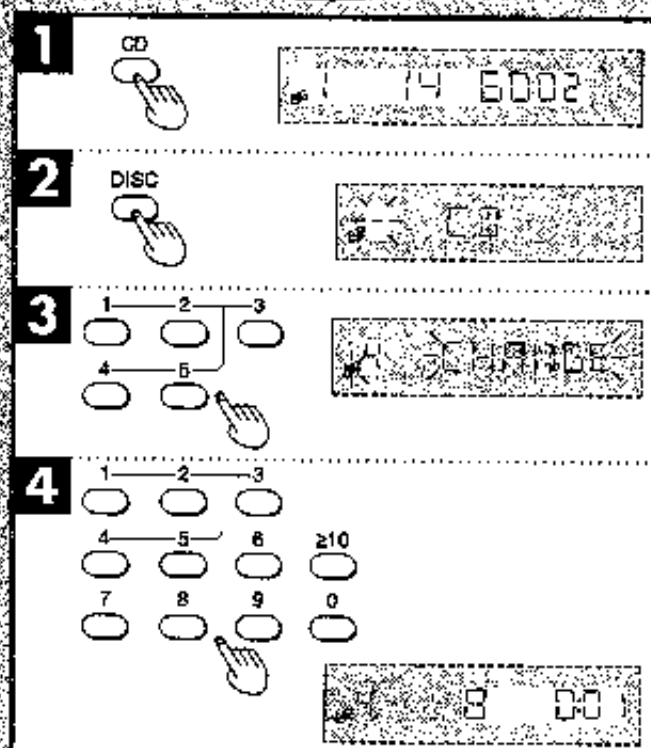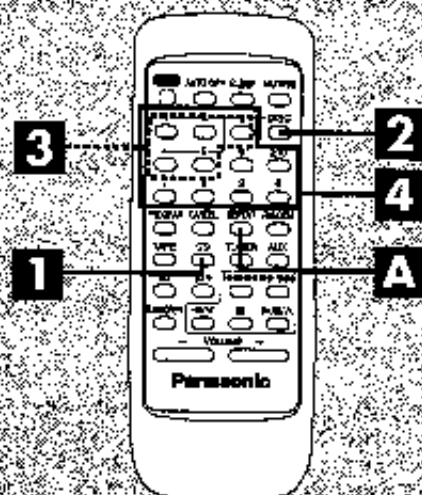
Direct access play

by remote control only

1 Press [CD].

2 Press [DISC].

3 (within 10 seconds or so)
Press [1] – [5] to select the disc you want.

4 Press the numeric button to select the desired track number.
The CD will be played from the selected track to the last track of the final disc (page 15).

To select a two-digit track
Press [≥10] and then the two numbers you want within 10 seconds or so.
For example
Track no. 20: [≥10] → [2] → [0]
Track no. 35: [≥10] → [3] → [5]

Repeat play

by remote control only

Press [REPEAT] before or during play. 🄐
All tracks on the loaded CDs are repeated.

To cancel repeat play
Press [REPEAT] once again.

To repeat your favourite tracks
1. Program the tracks you want (perform steps 🄰 ~ 🄳 on page 17).
2. Press [REPEAT] and make sure "⟳" is displayed.
3. Press [▶/■/∧]. Playback will start.

To repeat just one track
Set the 1-TRACK mode (page 18), press [REPEAT] before or during playback, and make sure "⟳" is displayed.

Random play

Press [RANDOM]. 🄱

Every time you press the button:

1-DISC ──────── ALL-DISC
└── Previous display ──┘

To random play just one disc
Select the CD you want to random play with [(CD 1) ~ (CD 5)] and press [RANDOM] to select "1-DISC".

To random play all the loaded CDs
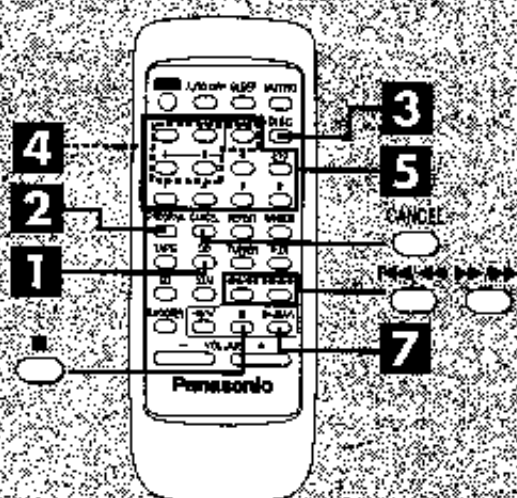Press [RANDOM] to select "ALL-DISC".

All tracks on the CD(s) will be played in random order. Playback will stop automatically when all tracks have been played.

To cancel random play
Press [RANDOM] to clear "RANDOM" display.

Note

You can use random play with your program. Only the programmed tracks will be played, but in random order.

Program play

by remote control only

You can program up to 24 tracks.

1 **Press [CD].**
Ensure CD is stopped.

2 **Press [PROGRAM].**

3 **Press [DISC].**

4 (within 10 seconds or so)
Press [1] – [5] to select the disc you want.

5 **Press the numeric button to select the desired track.**

6 **Repeat steps 4 through 5 until you have programmed all the tracks you want.**

7 **Press [▶/II/∧].**
Play will start in the programmed sequence.

To cancel program play mode
Press [PROGRAM] in the stop mode.
Programmed contents will be saved in memory.
Pressing [■] will cancel program play, but it will also erase the entire program.

To select a two-digit track
Press [≥10] and then the two numbers you want.

When "CD FULL" appears A
The number of programmed tracks is limited to 24. No further tracks can be programmed.

You can do the following during program mode B
- Check program contents.
  Press [I◀◀/◀◀] or [▶▶/▶▶I].
  Every time you press one of the buttons, the track and program No. are shown on the display.
- Add to the program.
  Repeat steps 5 through ■.
- Cancel entries.

From the last programmed track	Press [CANCEL].
A specified track only	Select the track with [I◀◀/◀◀] or [▶▶/▶▶I], and press [CANCEL] within 3 seconds.
All tracks	Press [■].

Memory retention
Your program is retained in memory for about 2 weeks while the system is unplugged.

To replay your program
If you turned OFF your program with [PROGRAM], you can play it again as explained below.
1. Press [PROGRAM].
2. Press [▶/II/∧].

If you program a track not on your CDs
The track is initially programmed, but during program play, the player will skip that track and will continue playing from the next programmed item.

---

1 CD

2 PROGRAM — PROM

3 DISC

4 1—2—3 4—5
Specified disc number

5 1—2—3 4—5 6 ≥10 7 8 9 0
Specified track number
Program order

7 ▶/II/∧

A CD FULL

B indicates program mode
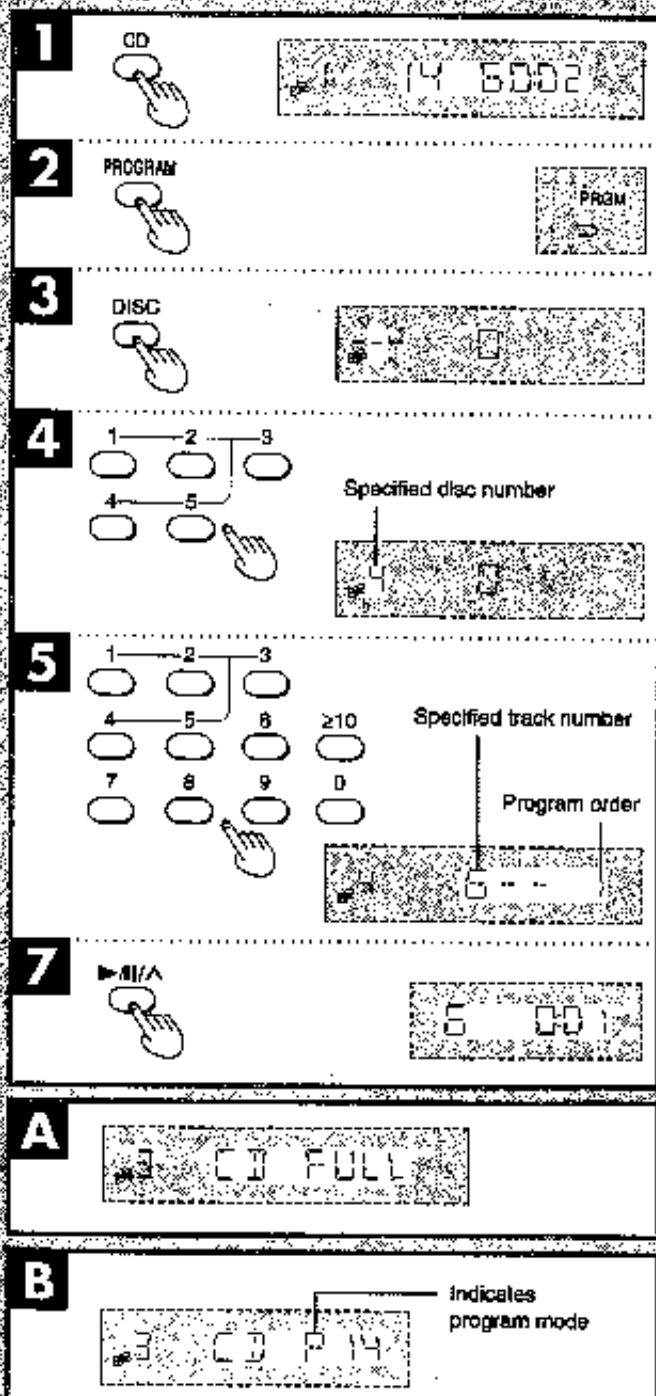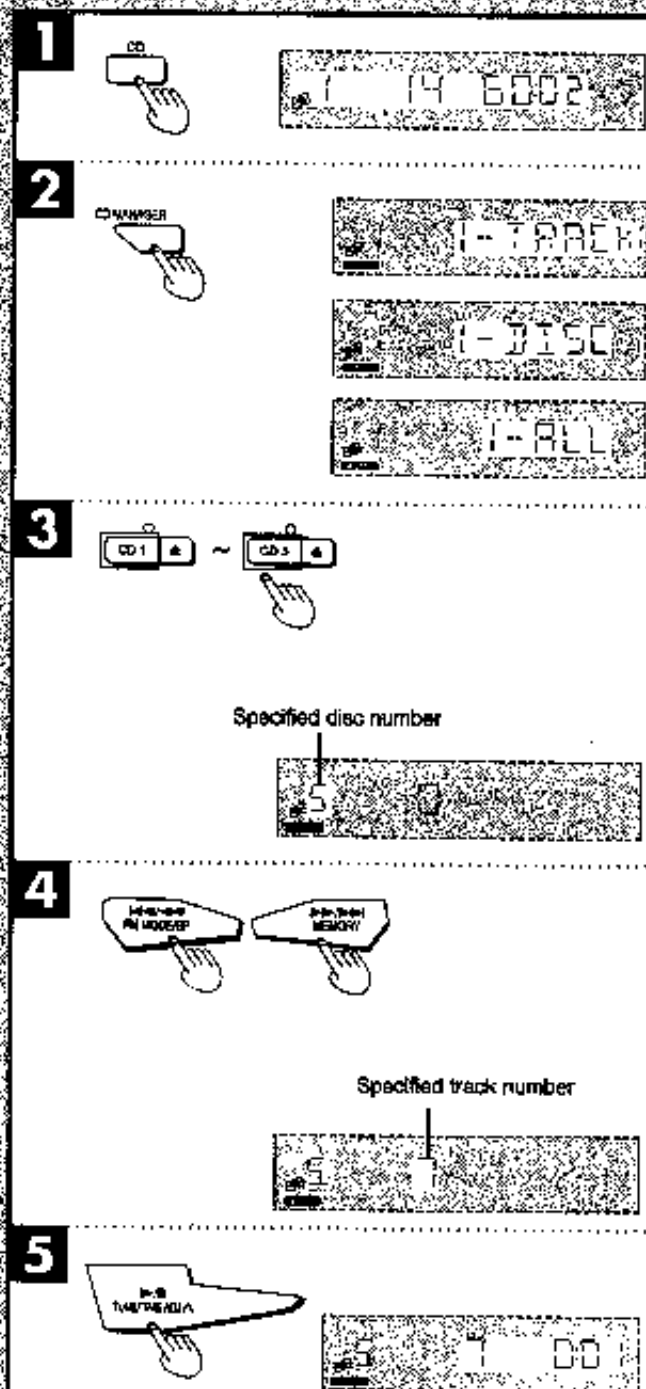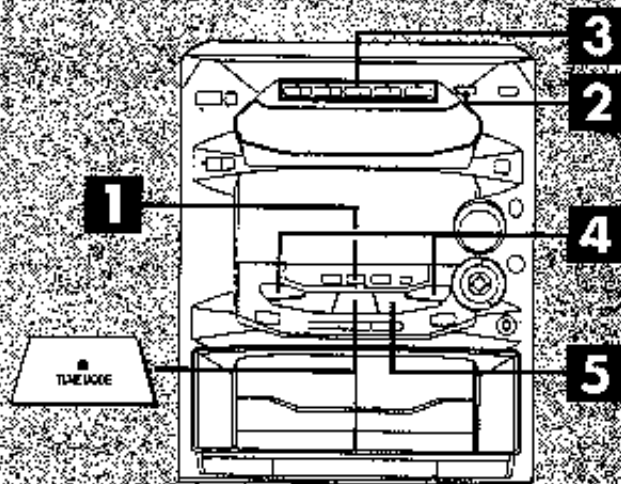
To listen to special CDs and tracks (CD Manager function)

This function makes it easier for you to select special CDs and tracks from amongst those loaded in the player.

You can use this function to make recordings as well.

There are 3 CD/track selection modes.
* For playing back 1 track only from all loaded CDs
  1-Track mode (1-TRACK)
* For playing back 1 CD only from all loaded CDs
  1-Disc mode (1-DISC)
* For playing back 1 track on all loaded CDs
  1-Track All-Disc mode (1-ALL)

1 **Press [CD].**
Ensure CD is stopped.

2 **Press [CD MANAGER] to select the desired mode.**
Every time you press the button:

1-TRACK → 1-DISC → 1-ALL

└──── NORMAL ────┘
(OFF)

1-TRACK: Only one particular track is played.
1-DISC: The tracks on only one particular disc are played.
1-ALL: The same track numbers on each of the CDs are played in succession.
(NORMAL: The original display is restored in about 3 seconds.)

3 **Press [(CD 1) – (CD 5)] to select the disc you want.**
Note
This step is not required if 1-ALL was selected in step **2**.

4 **Press [|◄◄/◄◄] or [►►/►►|] to select the desired track.**
Note
This step is not required if 1-DISC was selected in step **2**.

5 **Press [►/II].**
The selected track will start.

To stop play
Press [■].

When playback ends
"NORMAL" will appear on the display for about 3 seconds, then the CD MANAGER function will turn OFF automatically.

During play in the 1-ALL mode:
* It is not possible to skip back to a CD whose track has already been played.
* If a CD does not have the designated track number, it is skipped and play continues.

Notes
* You can use the CD Manager function together with repeat play.
* CD Manager function will be cancelled when you press the [RANDOM] button.

Compact disc operations

1
CD

2
CD MANAGER

1-TRACK

1-DISC

1-ALL

3
CD 1 ~ CD 5

Specified disc number

4

Specified track number

5
►/II

Types of tapes which can be played correctly:
The unit automatically identifies the type of tape.

NORMAL POSITION/TYPE I	✓
HIGH POSITION/TYPE II	✓
METAL POSITION/TYPE IV	✓

You can use either deck 1 or deck 2 for tape playback.

1 Press [TAPE, DECK 1/2].

The unit will come on automatically.
If the unit was off and a cassette was loaded, play will start automatically (One touch play function).

2 Press [⏏ DECK 1 OPEN] or [⏏ DECK 2 OPEN] and insert the tape.

Insert the tape with the exposed tape facing down.
Close the holder by hand.

3 Press [REV MODE] to select the reverse mode.

Every time you press the button:

$$\rightrightarrows \rightarrow \supset \rightarrow \subset\supset$$
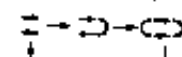
⇆ : One side is played, then playback stops automatically.
⊃ : Both sides (front side → reverse side) are played one time each, then playback stops automatically.
⊂⊃ : Both sides are played 8 times each, then playback stops automatically.

4 Press [◄] or [►] to start playback.

► : The forward side (front side) will play.
◄ : The reverse side will play.

5 Adjust the volume level.

To stop tape playback
Press [■].

To change the deck to be used A
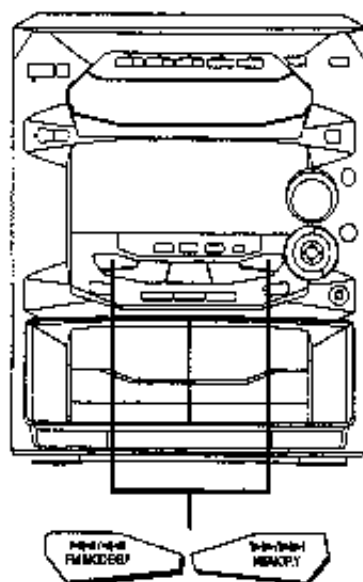Press [TAPE, DECK 1/2] to select the deck you want to use when you load cassettes into both decks.

To listen to 2 tapes consecutively
Load a tape into each deck and select "⊂⊃". Both tapes will be played 8 times each.

Note

Playback is momentarily interrupted while playing back tapes, if you open the other deck.
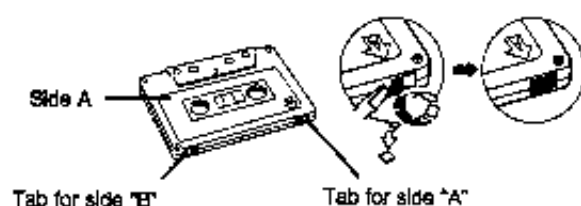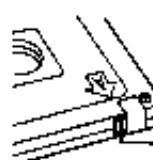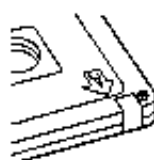
Cassette deck operations

1

2

3 — Front side

4 — Tape direction

5 — VOLUME — VOL -48dB

A — DECK 2 — Deck in use

Cassette deck operations
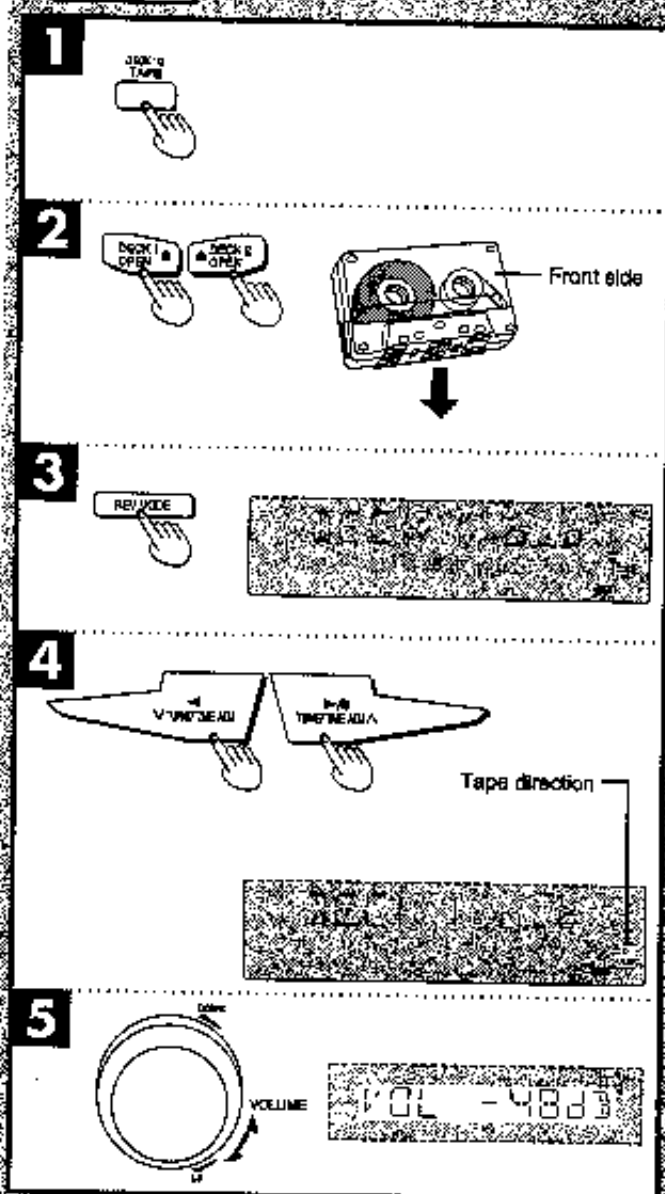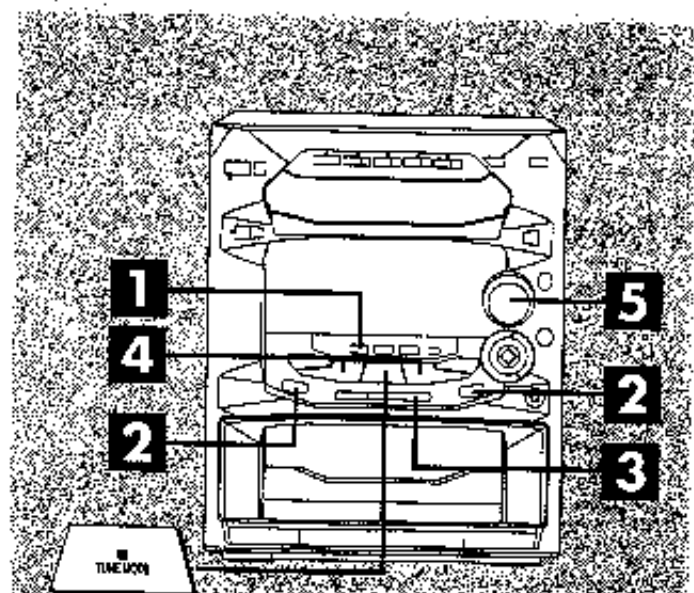
A

B How to take up tape slack

C To protect tapes against further recording

Side A

Tab for side "B"   Tab for side "A"

To re-record

Normal position tape   Hi-position tape

Detection hole

To fast-forward or rewind the tape B

Press [|◄◄/◄◄] or [►►/►►|] in the stop mode.

Tape direction	To rewind	To fast-forward
"▷"	[|◄◄/◄◄]	[►►/►►|]
"◁"	[►►/►►|]	[|◄◄/◄◄]

To find the beginning of a program (TPS: Tape Program Sensor) A

TPS finds the beginning of a track and resumes play from there. Each press increases the number of tracks skipped, up to a maximum of 9.

Press [|◄◄/◄◄] or [►►/►►|] during play.

Notes

The TPS function searches for silent parts of about 4 seconds in length which are normally found between tunes. As a result, it may not function properly in the following cases:
- With short silent parts
- When noise occurs between tunes
- With silent parts found within tunes

Concerning cassette tapes

Selection of cassette tapes

Tapes can get caught on the capstans. Use caution with the following types of tapes.

Cassette tapes exceeding 100 minutes
Tapes are made of a thin film material. Do not repeatedly advance and stop the tape, fast-forward it or rewind it.

Endless-tapes
For this unit, it is recommended to use tapes which are appropriate to the auto reverse mechanism.

Always read the instructions provided with your tapes.

Tape slack B

Tape slack may cause the tape to break.

Erasure prevention C

Use a screwdriver or similar object to break out the tab.

To re-record on a protected cassette
Cover the hole with adhesive tape.
Do not cover the detection hole on hi-position tapes.

Storage precautions

Do not place or store tapes in the following places:
- In high temperature (35°C or higher) or high humidity (80% or higher) areas
- In a strong magnetic field (near a speaker, on top of a TV, etc.) This can erase a recording.
- Locations exposed to direct sunlight

A

Recording part

Leader tape (no recording can be made)

TAPE MODE

1

DECK 1/2 TAPE

2

DECK 1 ▲ OPEN   DECK 2 ▲ OPEN

3

REV MODE

4

TAPE EDIT

Tape direction of the tape you are recording onto

Before recording (Deck 2 only)

Types of tapes which can be recorded correctly

The unit automatically identifies the type of tape.

NORMAL POSITION/TYPE I	✓
HIGH POSITION/TYPE II	✓
METAL POSITION/TYPE IV	✗

Metal position tapes can be used, but the unit will not be able to record or erase them correctly.

> Your attention is drawn to the fact that recording pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

To record from the beginning of the tape A

You cannot record on the leader part of the tape. Before recording, wind the tape past the leader to a point where recording can start immediately.

How volume, sound quality/field affect recording

The tape you are recording is not affected whatsoever by changes in volume, sound quality/field.

To erase a recorded sound

1. Press [TAPE, DECK 1/2].
2. Insert the recorded tape into deck 2.
3. Press [REV MODE] to select reverse mode.
4. Press [● REC/STOP].

Notes

- You cannot open deck 1 while recording.
- You cannot fast-forward or rewind one deck while recording with the other.

Tape-to-tape recording

The recording level will be recorded as it is on the tape being played back.

1 Press [TAPE, DECK 1/2].

2 Press [▲ OPEN] on both decks and insert the tapes.
For playback: Into deck 1
For recording: Into deck 2
Close the holders by hand.
Tape direction is automatically set to "▷".

3 Press [REV MODE] to select the reverse mode.
Every time you press the button:

⇄ → ⊃ → ⊂⊃
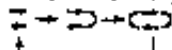
⇄ : One side is recorded, then recording stops automatically.
⊃,⊂⊃ : Both sides (front side → reverse side) are recorded, then recording stops automatically.

4 Press [TAPE EDIT] to start recording.
- If you selected "⊂⊃" in step **3**, the direction will automatically change to "⊃" when recording starts.

To stop recording
Press [■].
Both decks will stop.

To start recording on the reverse side
Load a tape and change the tape direction as follows:
1. Press [TAPE, DECK 1/2] and select tape deck 2.
2. Press [◄] and immediately thereafter [■]. The tape direction will be shown as "◁".

To record from a specific point on a tape

Tape direction

```
DECK2  ▷
```



```
FM  88.10
```

A

```
FM  BP1  ⇌  FM  BP2
```

1 **Press [⏏ DECK 2 OPEN] and insert the tape.**
Close the holder by hand.
Tape direction is automatically set to "▷".

2 **Press [REV MODE] to select the reverse mode.**
Every time you press the button:

$$\text{⇌} \rightarrow \text{⊃⊂} \rightarrow \text{⊂⊃}$$

≠ : One side is recorded, then recording stops automatically.

⊃⊂, ⊂⊃ : Both sides (front side → reverse side) are recorded, then recording stops automatically.

3 **Select a radio station. Perform steps 1 through 3 on page 13.**

4 **Press [● REC/STOP] to start recording.**
If you selected "⊂⊃" in step 2, the direction will automatically change to "⊃⊂" when recording starts.

To stop recording
Press [● REC/STOP] again.
Recording can also be stopped by pressing [■].

To start recording on the reverse side
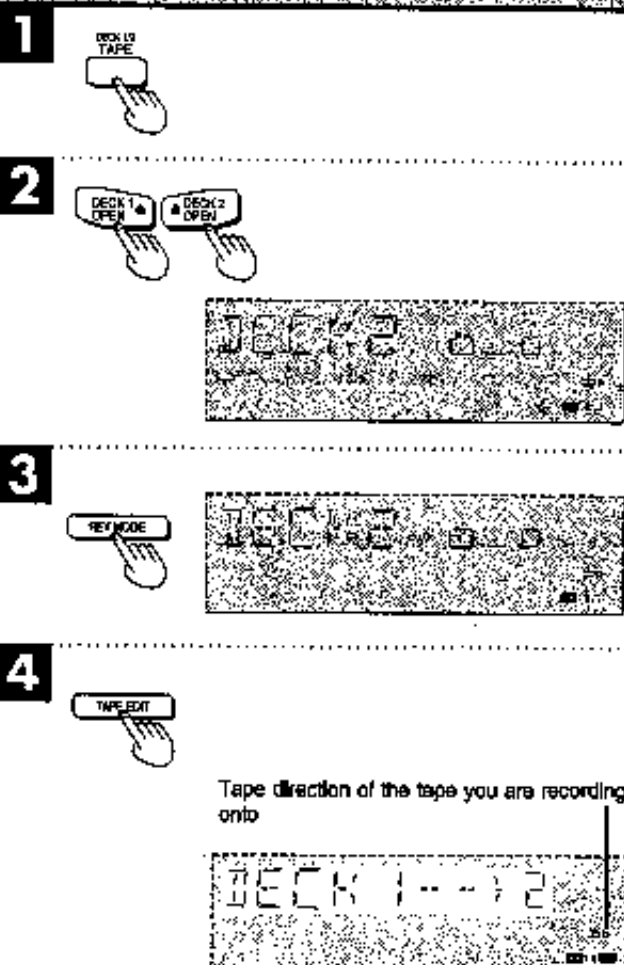Load a tape and change the tape direction as follows:
1. Press [TAPE, DECK 1/2] and select tape deck 2.
2. Press [◀] and immediately thereafter [■]. The tape direction will be shown as "◁".

To record from a specific point on a tape
Before recording, advance the tape to the point from where you want to start recording.

To cut an unnecessary part while recording
1. Press [● REC/STOP] during the unnecessary part. The cassette deck will go into the stop mode.
2. Press [● REC/STOP] to resume recording again. Recording will continue in the same direction as before.

Note

When recording an AM broadcast, sound is momentarily interrupted when you start and stop the recording.

To reduce noise while AM recording (Beat proof function) A

Press [▶▶▶/◀◀◀, FM MODE/BP] while recording.
Each time you press the button, "BP1" and "BP2" will be displayed alternately.
Select the position where there is less noise.
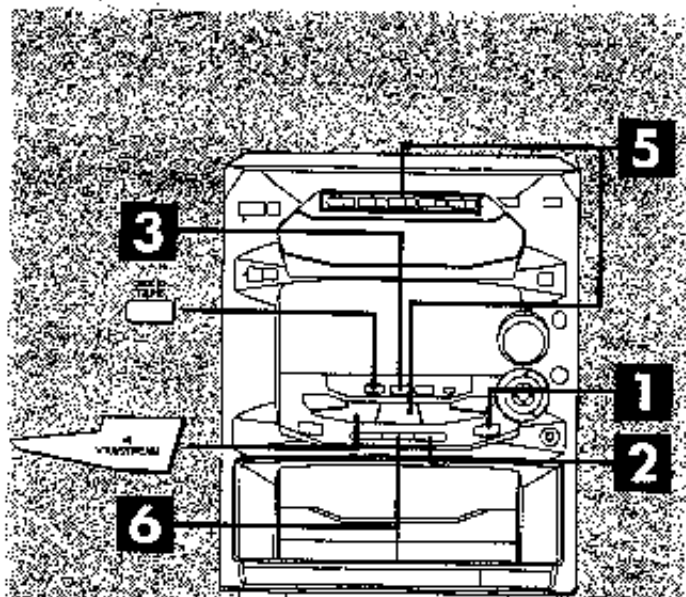
1 Press [≜ DECK 2 OPEN], and insert the tape.
Close the holder by hand.
Tape direction is automatically set to " ▷ ".

2 Press [REV MODE] to select the reverse mode.
Every time you press the button:

$$\rightleftarrows \rightarrow \rightrightarrows \rightarrow \circlearrowright$$

⇄ : One side is recorded, then recording stops automatically.

⇉,↻ : Both sides (front side → reverse side) are recorded, then recording stops automatically.

3 Press [CD].

4 Insert CD in the tray.
(Perform steps **1** ~ **2** on page 15).

5 Press [(CD 1) ~ (CD 5)] to select the disc you want.
Pressing [■] will stop playback.

6 Press [● REC/STOP] to start recording.
- If you selected " ↻ " in step **2**, the direction will automatically change to " ⇉ " when recording starts.
- The recording will proceed from the first track on the selected CD and will continue on through the last track of the final disc (page 15).
- The tape deck stops automatically when the CD is finished.

To stop recording
- To add a 4 second silent interval before stopping
  Press [■]. The CD will stop automatically too.
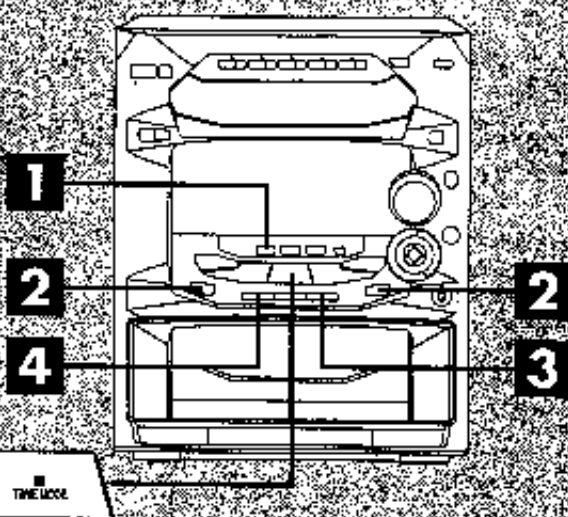- To stop recording without a silent interval
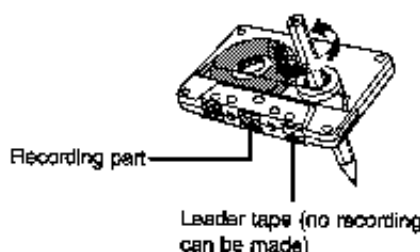 Press [● REC/STOP]. The CD will stop automatically too.
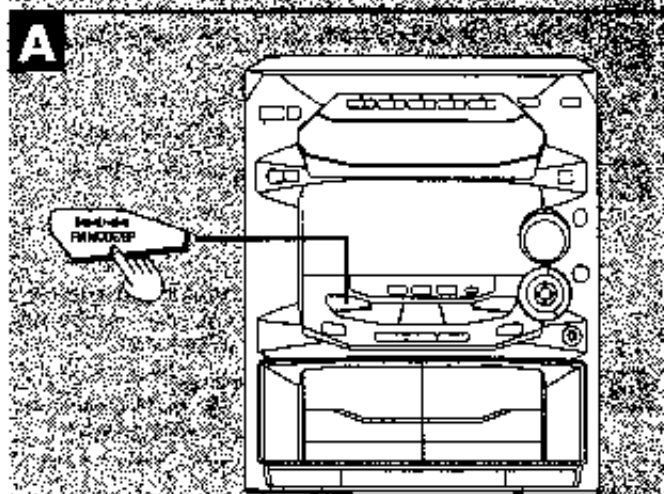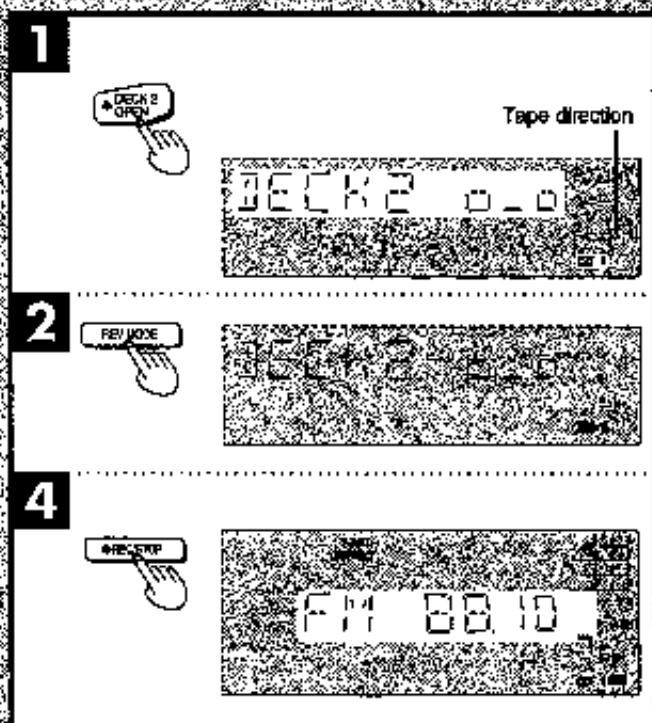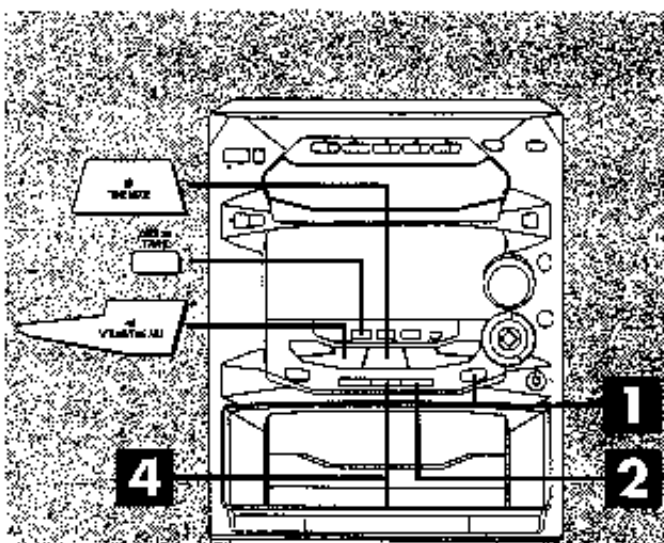
To start recording on the reverse side
Load a tape and change the tape direction as follows:
1. Press [TAPE, DECK 1/2] and select tape deck 2.
2. Press [◀] and immediately thereafter [■]. The tape direction will be shown as " ◁ ".

To record from a specific point on a tape
Before recording, advance the tape to the point from where you want to start recording.

To record programmed tracks

1. After step **1**, program the track you want (perform steps **1**~**2** on page 17).
2. Press [● REC/STOP] to start recording.

Taps direction

A

| Front side | 1 2 3 4 5 |
| Reverse side | 9 8 7 6 5 |

The interrupted track is re-recorded in its entirety on the reverse side.

1

CD

| 1 14 50:02 |

2

CD MANAGER

1-TRACK

1-DISC

1-ALL

3

CD 1 ~ CD 5

4

5

● REC/STOP
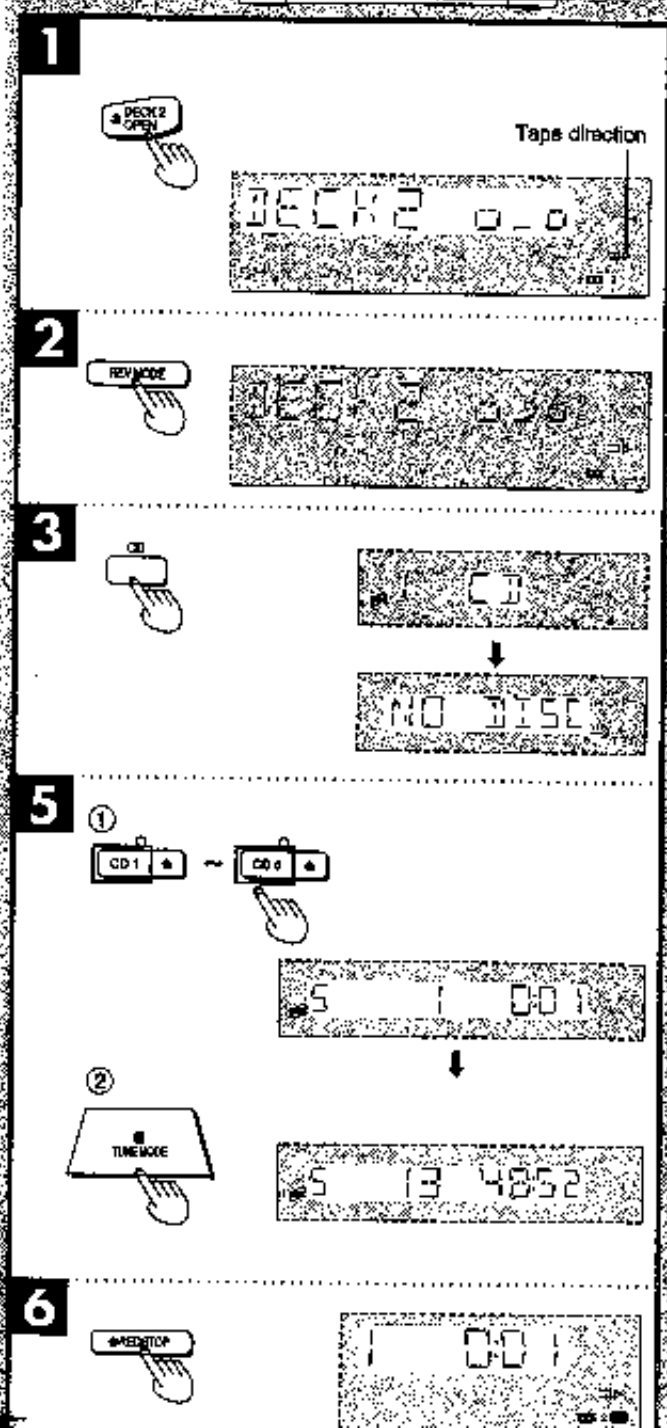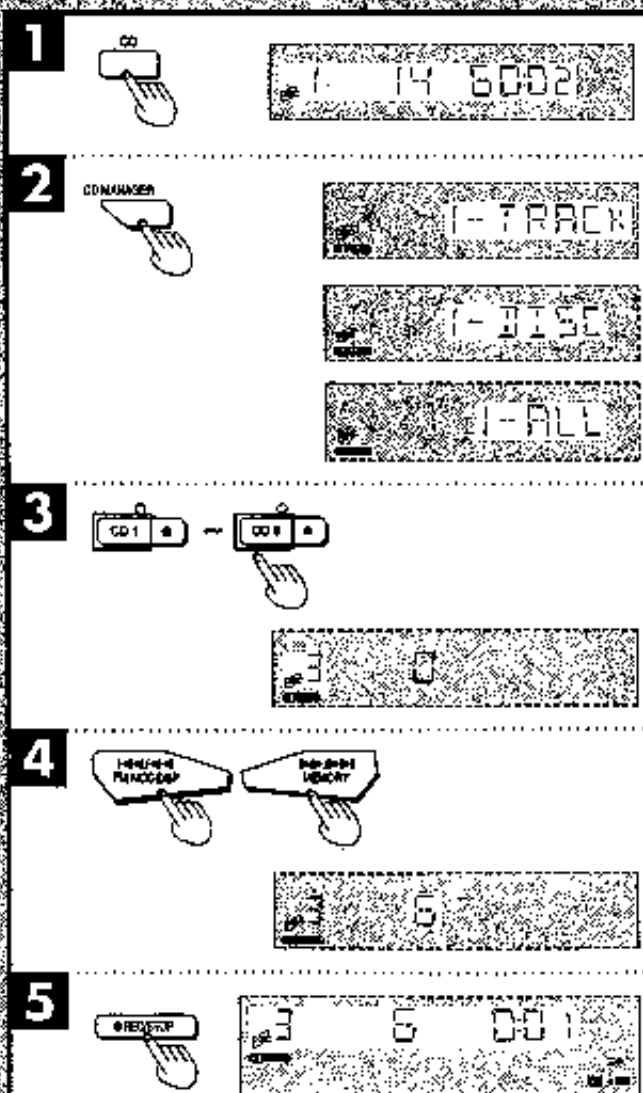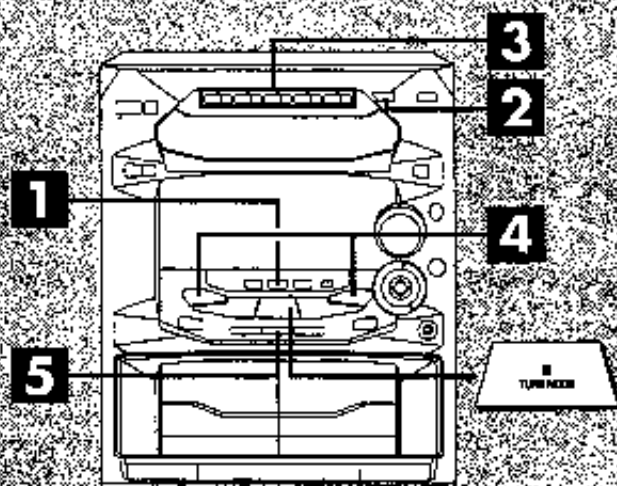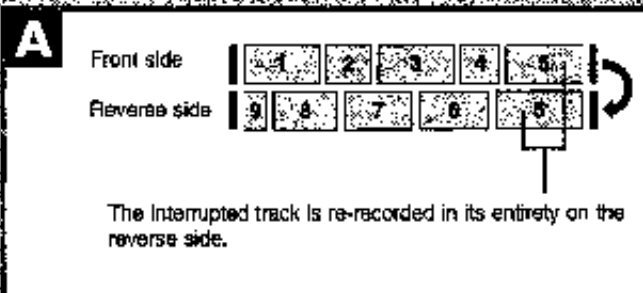
To record special CDs and tracks (CD Manager function)

This function makes it easier for you to select special CDs and tracks from amongst those loaded in the player.

* While recording, if a track is cut off in the middle at the end of the front side, it is re-recorded from the beginning, on the reverse side. **A**
* At the end of the reverse side recording stops and the current track will be interrupted.

Before recording

Prepare the tape you want to use. Perform steps **1** and **2** on page 29.

1 Press [CD].

2 Press [CD MANAGER] to select the desired mode.
Every time you press the button:

1-TRACK → 1-DISC → 1-ALL

NORMAL ←
(OFF)

1-TRACK: Only one particular track is recorded.
1-DISC: The tracks on only one particular disc are recorded.
1-ALL: The same track numbers on each of the CDs are recorded in succession.
(NORMAL: The original display is restored in about 9 seconds.)

3 Press [(CD 1) ~ (CD 5)] to select the disc you want.
Note
This step is not required if 1-ALL was selected in step **2**.

4 Press [|◄◄/◄◄] or [►►/►►|] to select the desired track.
Note
This step is not required if 1-DISC was selected in step **3**.

5 Press [● REC/STOP] to start recording.

To stop recording
* To add a 4 second silent interval before stopping
Press [■]. The CD will stop automatically too.
* To stop recording without a silent interval
Press [● REC/STOP]. The CD will stop automatically too.

A

Dial [SOUND EQ] to select the sound quality or sound field.
When it is turned clockwise, the settings are selected in the following sequence.

① **HEAVY (sound quality)**
   Select this when playing rock or other kinds of music that sound better with an added punch.

② **CLEAR (sound quality)**
   Select this for jazz or other kinds of music for which clarity in the treble range is desired.

③ **SOFT (sound quality)**
   Select this when listening to background music.

④ **DISCO (sound field)**
   Select this to produce sound with the same kind of lengthy reverberations heard at a disco.

⑤ **LIVE (sound field)**
   Select this to make vocals more alive.

⑥ **HALL (sound field)**
   Select this to add an expansiveness to the sound to produce the atmosphere of a great concert hall.

⑦ **MANUAL (see page 25)**

⑧ **AI EQ (see page 26)**

The original display is restored on the display panel in about 5 seconds.

To release the equalizer
Dial [SOUND EQ] to display "FLAT".

When using the remote control to perform the operations described above
Press [EQ].
Each time this button is pressed, the setting is changed in the sequence described above.

Note

All recordings are performed at the flat setting even if an alternative sound quality/sound field setting has been selected.

B

SC-AK28 only

Press [S.WOOFER].
* When listening to the sound through the speakers

   MID (medium) → MAX (high) → Light off (OFF)

* When listening to the sound through the headphones

   Light on (ON) ⇌ Light off (OFF)

Note

You cannot record super woofer effect, but you can use it for playback sound.

SC-AK18 only

Press [V.BASS].
Press the button again to cancel.
"V.BASS" goes out.

Note

You cannot record V.BASS effect, but you can use it for playback sound.
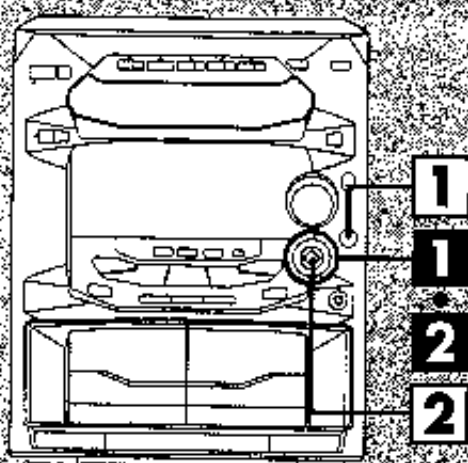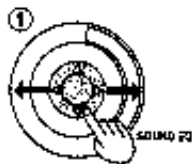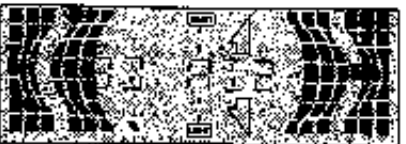
Varying the sound quality with the manual equalizer

1 Dial [SOUND EQ] to display "MANUAL".
When it is turned clockwise, the settings are selected in the following sequence.

① HEAVY
② CLEAR
③ SOFT
④ DISCO
⑤ LIVE
⑥ HALL
⑦ MANUAL
⑧ AI EQ
⑨ FLAT

2 Adjust the sound quality.
① ← → direction: For selecting the range of the sound to be adjusted

Characteristics of each sound range

Under 100 Hz:	Super woofer range
Around 330 Hz:	Bass to midrange
Around 1 kHz:	Midrange
Around 3.3 kHz:	Midrange to treble
Above 10 kHz:	Treble

② ↓ ↑ direction: For adjusting the level (7 steps)
When the level is in the center, the dot flashes rapidly.
Repeat steps ① and ② to set the desired sound quality.
The original display is restored on the display panel in about 5 seconds.

To release the equalizer
Dial [SOUND EQ] to display "FLAT".

- The sound quality setting is stored automatically. It is recalled when "MANUAL" is next selected.
- All recordings are performed at the flat setting even if an alternative sound quality setting has been selected.

Varying the sound quality with the acoustic image (AI) equalizer

The AI equalizer uses the SOFT, SHARP, HEAVY and LIGHT sound quality coordinates to achieve subtle sound quality settings with ease.

1 Press [3D AI EQ] to adjust the surround level.
Every time you press the button;

3D AI 1 ⟶ 3D AI 2
└ AI EQ (Light off) ⟵┘

2 Adjust the sound quality.
① ← → direction: SOFT–SHARP setting
② ↓ ↑ direction: LIGHT–HEAVY setting
Repeat steps ① and ② to set the desired sound quality.
The original display is restored on the display panel in about 5 seconds.

To release the equalizer
Dial [SOUND EQ] to display "FLAT".

- The sound quality setting is stored automatically. It is recalled when "AI EQ" is next selected.
- All recordings are performed at the flat setting even if an alternative sound quality setting has been selected.
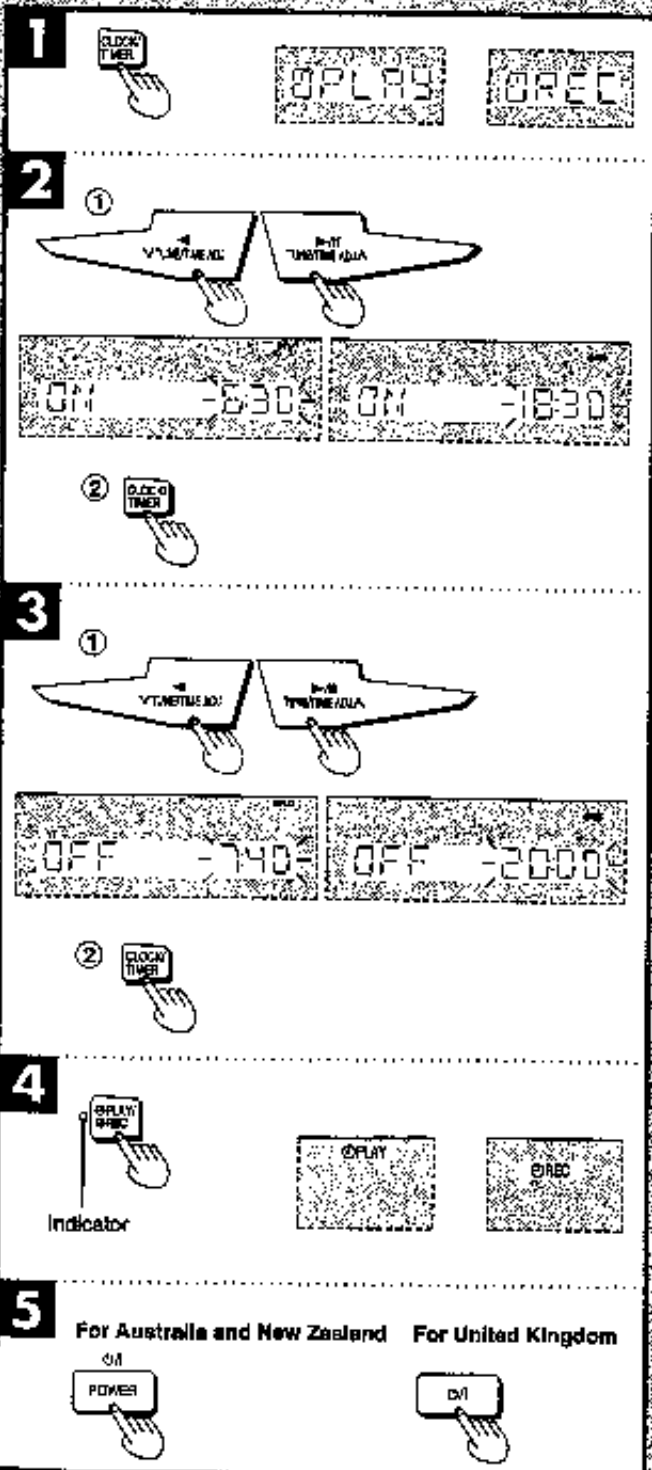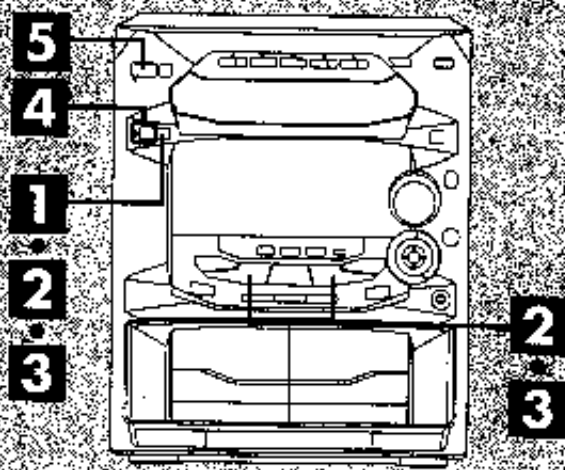
Using the play/record timer

The timer has two functions. It can be set to on at a certain time to wake you up, or it can be set to record the radio or from the aux source.

The play timer cannot be used in combination with the record timer.

Preparations

* Turn the unit on and set the clock. (→ page 11).
* For the play timer, prepare the music source you want to listen to; tape, CD, radio or aux, and set the volume.
* For the record timer, check the cassette's erasure prevention tabs (→ page 20: ▓), insert the tape in deck 2, select the reverse mode (→ page 22) and tune to the radio station (→ page 13) or select the aux source (→ page 29).

1 Press [CLOCK/TIMER] to select the timer function.
Every time you press the button:

CLOCK → ⊙PLAY → ⊙REC

↑___ Previous display ←__|

⊙PLAY : to set the play timer
⊙REC : to set the record timer

Setting the start and finish times

2 (Within 8 seconds or so)
① Press [TUNE/TIME ADJ (∨) or (∧)] to select the starting time.
② Press [CLOCK/TIMER].

3 ① Press [TUNE/TIME ADJ (∨) or (∧)] to select the finishing time.
② Press [CLOCK/TIMER].
The start and finish times are now set.

Turning the timer on

4 Press [⊙PLAY/⊙REC].
Every time you press the button:

⊙PLAY → ⊙REC

↑___ (OFF) ←__|

⊙PLAY : to turn the play timer on
⊙REC : to turn the record timer on

5 Press [♦/I] to turn the unit off.
The unit must be off for the timers to operate.
* For play timer
The timer play will start at the preset time with volume increasing gradually up to the volume level you preset.
* For record timer
The record timer comes on about 30 seconds earlier than the set time.

To cancel the timer
Press [⊙PLAY/⊙REC] and check [⊙PLAY/⊙REC] indicator lights off.

To change the settings (when unit is on)
* To change the play/record times
Do steps **2**, **3**, **4** and **5**.
* To change the source or volume
1. Press [⊙PLAY/⊙REC] to turn the [⊙PLAY/⊙REC] indicator off.
2. Make changes to the source or volume.
3. Do steps **1** to **5**.
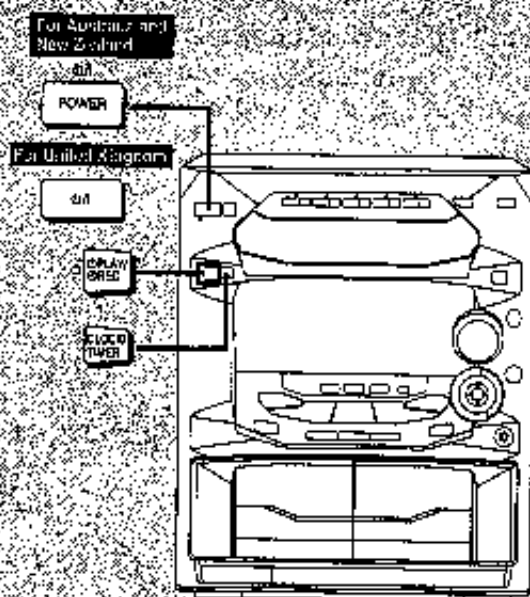
Using the play/record timer

To check settings

While the unit is on and the "⊘PLAY" (or "⊘REC") indicator is on, press [CLOCK/TIMER] so "⊘PLAY" (or "⊘REC") appears on the display.

Two seconds after "⊘PLAY" (or "⊘REC") appear, the settings are displayed in the following order:

- For play timer
    ① Play start time
    ② Play finish time
    ③ Play source
    ④ Playback volume

- For record timer
    ① Recording start time
    ② Recording finish time
    ③ Recording source

You can check the settings even when the system is OFF by pressing [CLOCK/TIMER].

To enjoy the desired source after the timer setting is completed

The volume level (for play timer) and music source are stored in the timer memory and the timer will start in these preset conditions. However, the Disc numbers and reverse mode do not get stored in the timer memory.

1. After step ▓, start playing the desired source.
2. Reset the Disc numbers and reverse mode if you have changed any of them, confirm that a Disc or cassette is inserted, then press [⏻/I] to put the unit on standby.

Turning the timer ON/OFF

One of the timers is on when the [⊘PLAY/⊘REC] indicator is alight. When the unit is on (or off and in NORMAL mode) you can confirm which is on by checking which indicator is on the display.

When the unit is off and in ECO mode, press [CLOCK/TIMER]. The display will then show which timer is on and the settings that have been made (see above).

To change the timer, press [⊘PLAY/⊘REC].

Each time the button is pressed the setting changes as follows.

⊘PLAY → ⊘REC
  └── (OFF) ──┘

Notes

- If you switch the system to the standby mode while the play/record timer is functioning, the OFF time setting will not be activated.
- If AUX is selected as the source, when the timer comes ON, the system will turn ON and will engage "AUX" as the source. If you want to playback or record from a connected component, set the component's timer to the same time. (See the instruction manual that came with the component.)

For Australia and New Zealand

POWER

For United Kingdom

⊘PLAY/⊘REC
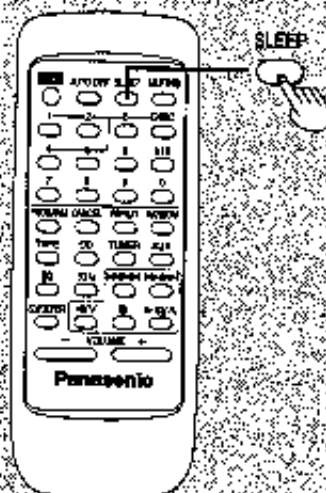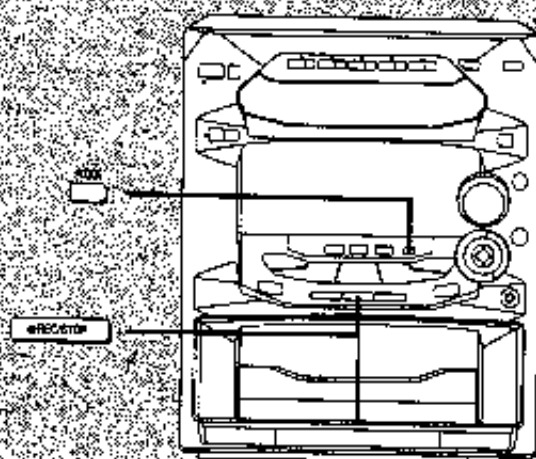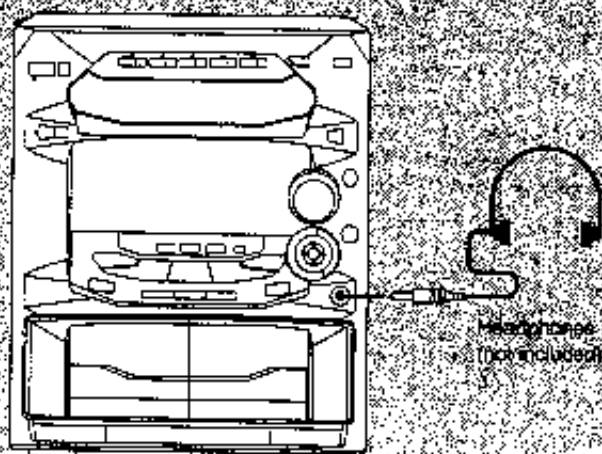
CLOCK/TIMER

Using the sleep timer

This timer turns your system OFF at the set time (Max. 2 hours, settable at 30-minute interval). It lets you fall asleep listening to music.

by remote control only

Preparation

Switch on the power.

The figure shows how to set the system to standby mode after 30 minutes.

While enjoying the desired source:
Press [SLEEP] to select the desired time.

Every time you press the button:

┌→ SLEEP 30 → SLEEP 60 → SLEEP 90 → SLEEP 120 → SLEEP OFF ┐

The system is turned off after the set time has elapsed.

To cancel the sleep timer:
Press [SLEEP] to select "SLEEP OFF".

To confirm the remaining time:
(only while system is ON)
Press [SLEEP].

To change the time remaining during operation:
Press [SLEEP] to show the remaining time then press [SLEEP] to select the desired time.

Notes
- The sleep timer turns OFF automatically the moment you attempt to edit-record a CD using CD Manager function.
- The sleep timer can be used in combination with the play/record timer.
  The sleep timer always has priority.
  Be sure not to overlap timer settings.

Using an external unit B

Listening to an external source

(See page 7 for external unit connection)

1. Press [AUX].
   The system will come on automatically.
2. Start playback from the external source. (For details, refer to the owner's manual of the equipment.)

Recording from an external source

1. Follow steps 1–3 on page 22.
2. Press [AUX].
3. Press [● REC/STOP] (recording starts).
4. Start playback from the external source. (For details, refer to the owner's manual of the equipment.)

Listening with headphones C

Reduce the volume level, and connect the headphones.
Plug type: 3.5mm stereo

Note
Avoid listening for prolonged periods of time to prevent hearing damage.

Timer operations

Reference

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.

Problem	Probable cause(s)	Suggested remedy	Reference page(s)
Problems common to all systems			
ECO mode is on but the display panel still lights up.	DEMO mode is on.	Turn DEMO mode off.	10
The location of the various musical instruments is not well defined.	The (+) and (−) connections to one of the speakers are reversed.	Connect the speaker cords correctly.	6
The left and right sounds are reversed.	The left and right connections to the speaker are reversed.	Connect the speaker cords correctly.	6
SC-AK28 LOW frequency sounds cannot be heard.	Either the left or the right LOW speaker cable is not connected.	Connect the left and right speaker cables to the LOW terminals.	6
When listening to the external unit, the left and right sounds are reversed.	The left and right connections to the external unit are reversed.	Connect the external unit's cord correctly.	7
There is no sound when a source is being played.	The (+) and (−) wire of the speaker cords are shorted.	Switch the system to the standby mode, and reconnect the speaker cords so that they are not shorted. Then switch on the power.	6
"ERROR" message appears on the display.	Incorrect operation has been done.	Operate the unit correctly by following the operating instructions.	
"− − : − −" appears on the display.	• You plugged the power cord in for the first time. • There was a power failure recently.	Set the time.	11
"F61" appears on the display.	Check if the speaker cords have shorted.	If they are not shorted then there is a power supply problem. Consult your dealer for assistance.	

While listening to FM broadcasts			
There is a "rushing noise" during a stereo broadcast which is not audible during a monaural broadcast.	The transmitting station is a long distance away.	If you are using an indoor antenna, change to an outdoor antenna.	7
You hear excessive noise during a stereo broadcast, and occasionally the sound disappears.	The installation location and orientation of the antenna are unsuitable.		7
The stereo indicator ("STEREO") flickers and does not light completely.	The transmitting station is a long distance away.		
	The power of the TV set or VCR is ON.	Try switching off the TV set or VCR.	
The sound during a stereo broadcast is highly distorted.	There is a building or mountain nearby.	Use a high-grade outdoor antenna, and install it in a good location, height, and orientation for reception.	7

While listening to AM broadcasts			
You hear an unusual beat sound.	You are using the system at the same time you are playing a TV set.	Switch off the TV set, or use the system further away from it.	
You hear a low-frequency hum.	The antenna wire is near the power cord.	Separate the antenna wire from the power cord.	

Problem	Probable cause(s)	Suggested remedy	Reference page(s)

When there is a television set nearby

Problem	Probable cause(s)	Suggested remedy	Reference page(s)
The picture on the TV disappears or stripes appear on the screen.	The location and orientation of the antenna are incorrect.	If you are using an indoor antenna, change to an outdoor antenna.	7
	The wiring at the back of the system is unsuitable.	Separate the antenna wire of the TV set from the system.	

While using the cassette deck

Problem	Probable cause(s)	Suggested remedy	Reference page(s)
Sound is low, intermittent, poor quality, noisy, scratchy, or unsteady.	Heads are dirty.	Clean the heads.	See below
The deck does not enter the recording mode.	The erase-prevention tabs are removed from the cassette.	Attach tape to cover the space left by removal of the erase-prevention tabs.	20

While listening to compact discs

Problem	Probable cause(s)	Suggested remedy	Reference page(s)
The display does not show the correct indication. Disc play does not start when you press the play button.	The disc is upside down.	Set the disc with the label facing upward.	15
	The disc is dirty.	Wipe the disc with a soft cloth.	14
	The disc is scratched.	Replace the disc with a new one.	
	The disc is badly warped.		
	The disc is a nonstandard one.	Replace the disc with a different one.	14
	There is condensation inside the CD changer.	Wait for 60 minutes before using the CD player.	
A certain music passage can't be played correctly.	The disc is dirty.	Wipe the disc with a soft cloth.	14
"TAKE OUT/DISC" appears on the display.	There was a power failure or the power cord was disconnected from the household AC outlet • during disc changing operation or • when the disc tray is opened.	1. Press [$\circ$ /I] to switch on the power. The tray will open. 2. Take out CD from the tray if there is any, then press [▲] of [CD 1] to close the tray. The system will restore normal operation.	

While using the remote control

Problem	Probable cause(s)	Suggested remedy	Reference page(s)
The system cannot be operated with the remote control.	The batteries are installed in the reverse polarity.	Re-insert the batteries in the correct polarity.	5
	The batteries are run-down.	Replace the batteries with new batteries.	5

Maintenance

If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.
If the surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution.

• Never use alcohol, paint thinner or benzine to clean this unit.
• Before using chemically treated cloth, read the instructions that came with the cloth carefully.

For a cleaner crisper sound

Clean the heads regularly to assure good quality playback and recording.
Use a cleaning tape (not included).

AMPLIFIER SECTION SC-AK28

RMS power output
THD 10%, both channels driven
- (HIGH) 40 W per channel (6 Ω)
- (LOW) 100 W per channel (6 Ω)
- (TOTAL) 140 W per channel (6 Ω)

Input sensitivity
AUX   250 mV
Input impedance
AUX   13.9 kΩ

AMPLIFIER SECTION SC-AK18

RMS power output
THD 10%, both channels driven
60 W per channel (6 Ω)
Input sensitivity
AUX   250 mV
Input impedance
AUX   13.9 kΩ

FM TUNER SECTION

Frequency range
87.50 – 108.00 MHz (50 kHz steps)
(For United Kingdom)
Sensitivity   1.8 μV (IHF)
S/N 26 dB   1.5 μV
(For Australia and New Zealand)
Sensitivity   2.5 μV (IHF)
S/N 26 dB   2.2 μV
Antenna terminal(s)   75 Ω (unbalanced)

AM TUNER SECTION

Frequency range
522 – 1629 kHz (9 kHz steps)
Sensitivity
S/N 20 dB (at 999 kHz)   560 μV/m

CASSETTE DECK SECTION

Track system   4 track, 2 channel
Heads
  Record/playback   Solid permalloy head
  Erasure   Double gap ferrite head
Motor   DC servo motor
Recording system   AC bias 100 kHz
Erasing system   AC erase 100 kHz
Tape speed   4.8 cm/s
Frequency response
(+3 dB, –6 dB at DECK OUT)
  NORMAL (TYPE I)   35 Hz – 14 kHz
  HIGH (TYPE II)   35 Hz – 14 kHz
S/N   50 dB (A weighted)
Wow and flutter   0.16% (WRMS)
Fast forward and rewind time
Approx. 120 seconds with
C-60 cassette tape

CD SECTION

Sampling frequency   44.1 kHz
Decoding   16 bit linear
Beam source/wave length
Semiconductor laser/780 nm
Number of channels   Stereo
Frequency response
20 Hz–20 kHz (+1, –2 dB)
Wow and flutter   Below measurable limit
Digital filter   8 fs
D/A converter   MASH (1 bit DAC)

SPEAKER SECTION
SB-AK28A   SB-AK28

Type   3 way speaker system
Speaker(s)
  Super Woofer   17 cm cone type
  Woofer   12 cm cone type
  Tweeter   6 cm cone type
Impedance
  HIGH   6 Ω
  LOW   6 Ω
Input power
  HIGH   80 W (Music)
  LOW   140 W (Music)
Output sound pressure level
87 dB/W (1.0 m)
Cross over frequency   150 Hz, 5 kHz
Frequency range   45 Hz–22 kHz (–16 dB)
55 Hz–20 kHz (–10 dB)
Dimensions (WxHxD) 220 x 330 x 302 mm
Weight   4.6 kg

SPEAKER SECTION
SB-AK18A   SB-AK18

Type   2 way 2 speaker system
Speaker(s)
  Woofer   12 cm cone type
  Tweeter   6 cm cone type
Impedance   6 Ω
Input power   100 W (Music)
Output sound pressure level
85 dB/W (1.0 m)
Cross over frequency   5 kHz
Frequency range   45 Hz–22 kHz (–16 dB)
55 Hz–20 kHz (–10 dB)
Dimensions (WxHxD) 210 x 330 x 257 mm
Weight   3.0 kg

GENERAL SC-AK28

Power supply
AC 230–240 V, 50 Hz
Power consumption   170 W
  Power consumption in standby mode
    Eco mode on   0.4 W
    Eco mode off   12 W
Dimensions (WxHxD) 270 x 330 x 335 mm
Weight   8.2 kg

GENERAL SC-AK18

Power supply
AC 230–240 V, 50 Hz
Power consumption   162 W
  Power consumption in standby mode
    Eco mode on   0.4 W
    Eco mode off   12 W
Dimensions (WxHxD) 270 x 330 x 310 mm
Weight   6.9 kg

Notes:
1. Specifications are subject to change without notice.
   Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

(En)